



DUQUESNE UNIVERSITY

Undergraduate Catalog



1991-1992 CATALOG

600 Forbes Avenue • Pittsburgh, Pennsylvania 15282

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TESTING BUREAU—
Administration Building, Third Floor
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DUQUESNE UNIVERSITY
PITTSBURGH, PENNSYLVANIA

**Undergraduate
Catalog**

1991-1992

Published annually by Duquesne University, 600 Forbes Avenue, Pittsburgh, Pennsylvania 15282.

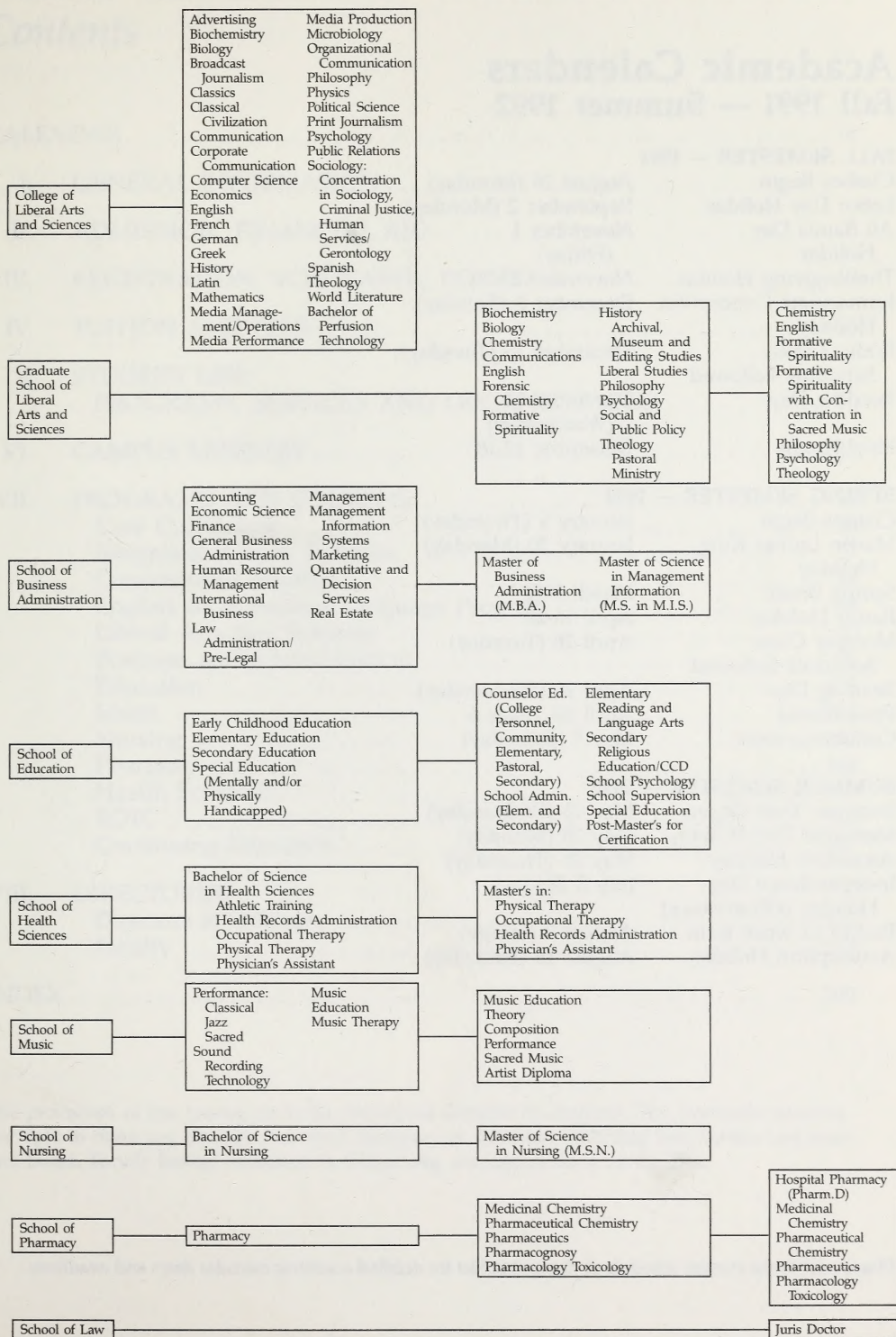
NOTICE OF RIGHT TO PRIVACY

Under the Family Educational Rights and Privacy Act, access to student records by non-University personnel is restricted unless granted by the student, or dependency of the student is demonstrated by a parent or guardian.

Duquesne University admits students of any sex, race, color, national and ethnic origin to all rights, privileges, programs, and activities generally accorded or made available to students at the school. It does not discriminate on the basis of sex, race, color, national or ethnic origin, veteran's status or non-performance related handicap in the administration of its educational policies, admissions policies, scholarship and loan programs, and athletic and other University-administered programs.

All Degrees and Programs Offered in the University

SCHOOL BACHELOR'S DEGREE MASTER'S DEGREE DOCTORATE



Academic Calendars

Fall 1991 — Summer 1992

FALL SEMESTER — 1991

Classes Begin	August 26 (Monday)
Labor Day Holiday	September 2 (Monday)
All Saints Day	November 1
Holiday	(Friday)
Thanksgiving Holiday	November 25-30
Immaculate Conception	December 8 (Sunday)
Holiday	
Friday Class	December 10 (Tuesday)
Schedule Followed	
Reading Day	December 11
	(Wednesday)
Final Exams	December 12-18

SPRING SEMESTER — 1992

Classes Begin	January 9 (Thursday)
Martin Luther King	January 20 (Monday)
Holiday	
Spring Break	March 9-14
Easter Holiday	April 16-20
Monday Class	April 28 (Tuesday)
Schedule Followed	
Reading Day	April 29 (Wednesday)
Final Exams	April 30 - May 6
Commencement	May 9 (Saturday)

SUMMER SEMESTER — 1992

Summer Term Begins	May 13 (Wednesday)
Memorial Day Holiday	May 25 (Monday)
Ascension Holiday	May 28 (Thursday)
Independence Day	July 3 (Friday)
Holiday (Observance)	
End of 12 week term	August 7 (Friday)
Assumption Holiday	August 15 (Saturday)

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The provisions of this catalog are to be considered directive in character. The University reserves the right to make any changes that seem necessary or desirable, including fees, tuition and room and board. Faculty listings contained in this catalog are current as of Spring 1991.

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Academic Calendar

1994 Academic Year - 1995 Fall

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The University of the South is an equal opportunity institution. It is the policy of the University to provide equal access to all persons regardless of race, color, sex, age, religion, national origin, or handicap. The University does not discriminate in its policies or practices on the basis of race, color, sex, age, religion, national origin, or handicap.

Part I: General Information

HISTORY

Duquesne University first opened its doors as the Pittsburgh Catholic College of the Holy Ghost in October, 1878 with an enrollment of 40 students and a faculty of seven. The school grew rapidly in its first years until it moved from its original location on Wylie Avenue in the city's Uptown section to its present site, a scenic 39-acre hilltop called "The Bluff", which overlooks downtown Pittsburgh.

By 1911, the school had achieved university status, at which time the name Duquesne University of the Holy Ghost was adopted in honor of the 18th century governor general of French Canada, the Marquis de Duquesne, who first brought Catholic services to Pittsburgh while it was under French dominion.

Duquesne's great period of student growth after World War II, along with the necessity of refurbishing a makeshift physical plant led the University to begin an ambitious program of planned physical expansion and modernization in 1950.

Now in the enviable position of having completed most of its physical development needs for the foreseeable future, the University is a modern, attractive, highly functional educational facility which has more than tripled from its early 12.5 acres to its present, self-enclosed 39-acre campus site.

Today, Duquesne University is not only one of the leading private institutions in Pennsylvania, but also is one of several major private, Catholic, urban universities in the United States.

The University has more than 6,000 students enrolled in its nine schools; College of Liberal Arts and Sciences (1878), Graduate School of Liberal Arts and Sciences (1911), and the Schools of Law (1911), Business and Administration (1913), Pharmacy (1925), Music (1926), Education (1929), Nursing (1937) and the School of Health Sciences (1990). Duquesne's nine schools offer degree programs on the baccalaureate, professional, master's and doctoral levels.

SUMMARY STATEMENT OF MISSION AND GOALS

Duquesne University of the Holy Ghost is a Catholic university, founded by members of the Congregation of the Holy Ghost, and sustained through a partnership of laity and religious.

The motto of Duquesne University is *Spiritus est qui vivificat*, "It is the Spirit which giveth life." Enriching the life of the mind and the life of the spirit of every member of its community is the mission of Duquesne.

It is Duquesne University's special trust to seek truth and to disseminate knowledge within a moral and spiritual framework in order to prepare leaders distinguished not only by their academic and professional expertise but also by their ethics, and guided by consciences sensitive to the needs of society.

Therefore, Duquesne is a community of students, faculty, administrators, and others who are willing to make these commitments:

- To create undergraduate and graduate education of the highest quality in liberal and professional disciplines.
- To examine the moral and ethical foundations of their thought and action, and to develop their personal values and ethical commitment.
- To participate in an ecumenical dialogue open to all beliefs.
- To extend educational opportunities to those with special financial, educational, and physical needs.
- To promote world community through the development of an international and intercultural vision of the global needs and international responsibilities for peace, justice, and freedom.

Duquesne serves God by serving students — through an academic community dedicated to excellence in liberal and professional education, through profound concern for moral and spiritual values, through the maintenance of an ecumenical atmosphere open to diversity, and through service to the Church, the community, the nation, and the world.

Duquesne offers a wide variety of programs and curricula from which students may select freely in accordance with their interests, capabilities and goals in life.

Complemented by a broad spectrum of nonacademic activities and programs, the curriculum at Duquesne University is designed to prepare young men and women who, upon entering their chosen careers, will possess a broad, well-balanced and fully integrated education and perspective of themselves and the world.

POLICY STATEMENTS ON INTERNATIONAL EDUCATION

The mission of Duquesne University's founders, the Holy Ghost Congregation, has always included service to peoples outside of the United States. Duquesne University also is committed to providing an educational environment which recognizes cultural and national pluralism.

Duquesne welcomes qualified students from throughout the world and encourages its students and faculty to take advantage of opportunities to study and teach abroad.

The University believes that the sharing of the multiple traditions and mores of societies is an invaluable element in the educational process.

In a world that is growing ever smaller, it is imperative that Duquesne reach out to peoples of different cultures to afford them the opportunity to acquire educational experiences not otherwise available to them. Interaction among international and American faculty and students will enrich all and enhance their ability to be better citizens of our shared world.

Duquesne University asserts its commitment to develop and maintain programs, services and practices which promote and express respect for persons of diverse cultures and backgrounds and which provide educational bridges linking the peoples of the world.

THE UNIVERSITY SETTING

Located adjacent to downtown Pittsburgh, Duquesne University's modern hilltop campus is readily accessible to the business, entertainment and shopping centers of the city, while still offering students the privacy and peace of its own self-enclosed 39-acre site.

Long noted as one of the world's greatest steel-producing centers, Pittsburgh combines the features of urban living with many of the charms and personal characteristics of a much smaller town. One of the largest corporate headquarters centers in the U.S., Pittsburgh was also shown, in a recent survey by Rand-McNally to be America's most livable city.

Students from Duquesne and the other colleges and universities in the city can choose from a wide range of cultural events and institutions.

The world-renowned Pittsburgh Symphony Orchestra, Pittsburgh Opera, and Pittsburgh Ballet Theatre all perform regularly in the elegant Heinz Hall for the Performing Arts and the Benedum Center. The theatregoer can choose from productions of the Pittsburgh Public Theatre, local college drama departments and programs, and a wide variety of summer and afterdinner club theatres.

Seasonal events include the Three Rivers and Shadyside arts festivals, and the International Folk Festival, three prestigious events which draw national attention.

Duquesne students can visit such points of interest as The Pittsburgh Zoo, Carnegie Museum of Art and History, Scaife Gallery, the Conservatory Aviary, Buhl Science Center, Pittsburgh History and Landmarks Museum, Duquesne Incline and Phipps Conservatory.

Directly across the river from campus is Mount Washington, Pittsburgh's highest point, which offers a spectacular view of the city and its surroundings, particularly at night.

Market Square, a redeveloped area in the heart of downtown Pittsburgh, and the Oakland-Shadyside area in the eastern end of the city are two of the major entertainment and nightlife centers.

The success of the various professional and major college sports teams has won for Pittsburgh the title of "City of Champions." The 1971 and 1979 World Champion Pirates and four-time Super Bowl Champion Steelers play at Three Rivers Stadium. The Penguins (National Hockey League) perform in the nearby Civic Arena, one of the largest indoor sports arenas in the United States and the only one in the world with a retractable dome. The Duquesne Dukes play their season in the new on-campus facility, The Palumbo Center. Facilities for such participatory sports as tennis, golf, running, hiking, skiing, skating, and many others are available throughout the Pittsburgh area.

PHYSICAL FACILITIES

The Administration Building, "Old Main," was the first building constructed on the Duquesne campus, dedicated in 1885. Recently renovated, it houses the Executive Offices of the University, Office of Admissions, Registrar's Office, Campus Ministry, Business Offices, Counseling and Testing Center, University Academic Advisement and Referral Center, Financial Aid Office, and the offices of University Events, Development, and Public Relations. Adjoining the building is the **University Chapel**, which offers daily Mass.

A. J. Palumbo Center dedicated in 1988, is the home of the Duquesne Dukes basketball team. In addition to the Duke's home court, the center serves as a recreational facility for students, faculty and staff. The 6,200-seat arena also houses intramural activities, racquetball and squash courts, a weight room, exercise room, sauna, and locker facilities. The arena is also a convocation facility that allows the entire University to come together for major events.

Assumption Hall, the oldest residence hall on campus, was dedicated in 1956. A four-story structure with a 280-student capacity, the facility has its own recreation area, and offers both single and double occupancy rooms. The Learning Skills Center is also housed there.

Canevin Hall, the oldest classroom building on campus, was built in 1922 and completely renovated in 1968. A four-story building, it houses the School of Education, Curriculum Library, Reading Clinic and Guidance and Counseling Clinic as well as the Department of Theology.

College Hall, a six-story classroom and office building dedicated in 1970, is the seat of the College of Liberal Arts and Sciences and the Graduate School of Liberal Arts and Sciences, housing the majority of their individual departments and faculties. The School of Nursing is located on the sixth floor. Special instructional facilities include a Writing/Computer Laboratory, an interactive Language Laboratory, nursing laboratories and two lecture halls.

The Psychology Counseling Center houses the University's Center for Training and Research in Phenomenological Psychology, a facility operated by Duquesne's renowned Department of Psychology.

Des Places Communications Center, dedicated in 1982, houses the Department of Communication and the production and broadcasting studios of WDUQ-FM, an affiliate of National Public Radio (NPR). Named in honor of the founder of the Holy Ghost Congregation, the center also features a journalism laboratory, a fully equipped color television studio, a simulation laboratory, an instructional photo laboratory, seminar rooms, a graphic arts classroom, and a little theatre performance room.

The Duquesne Towers, a 17-story, air-conditioned double-tower residence for 1,200 men and women featuring separate housing wings, was dedicated in 1970. The facility features a full-size indoor swimming pool with a sundeck, offices of the Residence Life Division, an office of Campus Ministry, the Campus Health Services area, a main student lounge and smaller lounges on each floor, telephones in each room, and a resident dining hall with a 2,500 student capacity.

The Duquesne Union, a modern architectural facility with an innovative concrete and glass design, is the center of campus activities and student life. Dedicated in 1967, it houses the offices of the Student Life, International Education and various student organizations and interest groups. Facilities include administrative and student organizations offices, meeting rooms, information center, bookstore, cafeteria, art gallery, and a recreation center which features four bowling lanes, video arcade as well as other games.

The G & G Building, in addition to housing various administrative offices of the University, also houses the University's Vocations Office.

The Gymnasium is used as a practice facility. The ROTC offices are also housed there.

McCloskey Field, dedicated in the mid-1970s, and renovated in 1988, is the center for outdoor intramural activity. The field now is made up of artificial turf and is surrounded by a practice track used by the University track team. Other athletic facilities include three self-enclosed tennis courts and two outdoor basketball courts, one of which is converted for street hockey in the winter months.

The Edward J. Hanley Hall, dedicated in 1982, resulted from the renovation and expansion of the old University Library building. The new facility houses School of Law faculty and administrative offices, research and study rooms, two large amphitheatre lecture halls, interview rooms, seminar and classroom areas, and a moot courtroom. The greatly expanded law library is the most accessible one of its kind in the city, with its central location and convenient hours. The law library is open to members of the local bench and bar, as well as law students.

The Library Resource Center, dedicated in 1978, is a modern, attractive five-story structure that signaled the crowning achievement of the University's expansion and redevelopment program. Housed in over 100,000 square feet of space is a collection of over 453,500 volumes, more than 3,900 periodicals, and an extensive microprint and audiovisual collection.

The facility also contains a number of special collections, including the African Collection on African culture, society and politics; the Rabbi Herman Hailperin Collection on Medieval Christian and Jewish intellectual and religious thought; the Silverman Center collection of world literature in phenomenology; and the Justice Michael A. Musmanno Collection.

With seating capacity for approximately 1,000 patrons, including graduate study carrels and conference facilities, the new Library constitutes a highly functional facility that should remain responsive to the needs of the Duquesne community for many years to come. Architects for the Library Resource Center, Gerard Associates, were cited by the Pittsburgh Chapter of the American Institute of Architects for creative design in their renovation and expansion of the original structure, an old garage and warehouse constructed in the 1920s into the present facility. The Music School, the Edward Hanley Hall and College Hall also resulted from conversions of older structures.

In 1990 the Library began the installation of a CD-ROM Center which will contain 15 networked workstations. This configuration is designed to permit users to access the Library's data files that are available on CD-ROM disks from any one of the 15 points. It is expected that the Center will be operational by September 1990.

The Parking Garage, dedicated in the fall of 1987, is located on Forbes Avenue at Hooper Street and provides the University with 775 parking spaces. The eight-story garage is equipped with an elevator and walk-way connected to the north entrance of the Duquesne Union building allowing easy access to Duquesne's hilltop campus.

The Public Safety Building is headquarters for the University's Public Safety Office and the I.D. Center for the University.

Richard King Mellon Hall of Science, an attractive, four-story structure dedicated in 1968, houses the departments of biological sciences, chemistry, physics, and the School of Pharmacy. Designed by one of the world's most renowned architects, Mies van der Rohe, the building won the "Laboratory of the Year" award in 1969. Instructional facilities include two large amphitheatre-style lecture halls with seating capacities of 175 each, well-equipped laboratories, and a science computer facility.

The Music School, dedicated in 1967, has 73 pianos,

including 56 Steinways, five organs, and over 300 orchestral and band instruments available for student use. Individual and group practice areas are available in the building, along with acoustically equipped classrooms. Performances are given throughout the school year in the recital hall which is equipped with two Steinway concert grands. The Center for Music Technology, which houses a Music Learning Resource Center, an Electronic Piano Lab, and a Synthesizer and Recording Studio, features state-of-the-art synthesizers, sequencers, samplers and audio equipment.

Rockwell Hall, dedicated in 1958, is a 10-story structure which houses the School of Business and Administration. Its Business Simulation Laboratory contains 12 conference rooms equipped with television cameras and microphones for observation and recording of activity in the individual rooms. Rockwell Hall also houses a vending machine center, the Business School's student lounge, two modern computer laboratories of the School of Business and Administration, Center for Communications and Information Technology, the Division of Continuing Education, Career, Planning and Placement, Printing and Graphics Department, the Mailing Center, Peter Mills Auditorium, Institute of Formative Spirituality, and the University Archives.

St. Ann's Hall, dedicated in 1964, is a two-wing, three-story coed dormitory with its own laundry area, several lounges and television rooms, a recreation area, snack area, and attractive grounds. Double and single rooms are available.

St. Martin's Hall, A 14-story residence, provides housing for graduate and law students, as well as non-Duquesne students from other Pittsburgh academic and vocational institutions.

Trinity Hall, dedicated in 1952, serves as the residence of the Holy Ghost Fathers who serve the University as administrators and teachers. The grounds of the hall include an attractive mall and grotto.

ACCREDITATION AND AFFILIATION

University

Accreditation

Commission on Higher Education

Middle States Association of Colleges and Schools

State Board of Education of the Pennsylvania Department of Education

Membership

American Association of Collegiate Registrars and Admissions Officers

American Council on Education

Association of Catholic Colleges and Universities

Catholic College Coordinating Council

Catholic Educational Association of Pennsylvania

College Entrance Examination Board

Council for Advancement and Support of Education

International Federation of Catholic Universities

Middle States Association of Collegiate Registrars and Officers of Admission

National Association for Independent Colleges and Universities

National Association of College Admission Counselors

National Association of College and University Business Officers

National Association of Foreign Student Administrators

National Association of Student Personnel Administrators

National Association of Student Financial Aid Administrators

National Catholic Educational Association

National Commission on Accrediting

Pennsylvania Association of Catholic College Admissions Officers

Pennsylvania Association of Colleges and Universities

Pennsylvania Association of Student Financial Aid Administrators

Pittsburgh Council of Higher Education

College of Liberal Arts and Sciences

Accreditation

American Chemical Society

Membership

American Association for Higher Education

American Association for State and Local History

American Conference of Academic Deans

American Historical Association

American Society of Journalism School Administrators

Association of American Colleges

Association of Departments of English

The Historical Society of Western Pennsylvania

National Collegiate Honors Council

Organization of American Historians

School of Business and Administration

Accreditation

American Assembly of Collegiate Schools of Business

Accreditation Council

Membership

Association for University Business and Economic Research

Middle Atlantic Association of Colleges of Business Administration

School of Education*Accreditation*

Middle States Association of Colleges and
Schools

Pennsylvania Department of Education

Membership

American Association of Colleges for Teacher
Education

Association of Independent Liberal Arts
Colleges for Teacher Education

International Council on Education for Teaching
The Pennsylvania Association of Colleges and
Teacher Educators

School of Music*Accreditation*

National Association of Schools of Music

National Association for Music Therapy

Membership

American Symphony Orchestra League

National Catholic Music Educators Association

School of Nursing*Accreditation*

National League for Nursing

Approval

Pennsylvania State Board of Nursing

Membership

American Association of Colleges of Nursing

National League for Nursing (Council of
Baccalaureate and Higher Degree Programs)

Pennsylvania Higher Education Nursing
Schools, Inc.

School of Pharmacy*Accreditation*

American Council on Pharmaceutical Education

Pennsylvania State Board of Pharmacy

Membership

American Association of Colleges of Pharmacy

EVENING STUDY

Duquesne University offers evening classes for full and part-time students each semester and during the Summer Session. The following undergraduate degrees are able to be completed through evening study:

College of Arts & Sciences

Bachelor of Science in Computer Science

Applications: Corporate, Scientific

Bachelor of Arts in Corporate Communication

Bachelor of Arts in Psychology

Bachelor of Arts in Sociology

Concentrations: Criminal Justice, Human Services/Gerontology, Sociology

School of Business & Administration

Bachelor of Science in Business Administration

Concentrations: Accounting, Economics, Finance,
Human Resource Management, International
Business, Law Administration, Management,
Management Information Systems, Marketing,
Real Estate

School of Education

Bachelor of Science in Education

Certification: Elementary Education

Division of Continuing Education

Bachelor of Professional Studies

The Bachelor of Professional Studies is designed for adult students who seek flexibility in a bachelor's degree program. Students are provided the opportunity to customize plans of study to meet personal and professional goals. A strong foundation in both business and the liberal arts allows students to individually design two major areas of study, designated as personal focus areas. Focus areas are designed in conjunction with an academic advisor and are available in a wide range of business and/or liberal arts subjects.

For additional information regarding evening study, please contact the Office of Evening & Summer Programs, 701 Rockwell Hall, at 434-6232.

SUMMER SESSIONS

Many undergraduate and graduate courses are offered each summer in most areas. They are open to qualified Duquesne students and to those from other colleges and universities.

The sessions, of varying length, begin in May and run through mid-August. For additional information regarding Summer Sessions, or to request a Summer Schedule of Classes, please contact the Office of Evening & Summer Programs, 701 Rockwell Hall, at 434-6232.

CENTER FOR COMMUNICATIONS AND INFORMATION TECHNOLOGY

The Center for Communications and Information Technology provides facilities and guidance in the use of computing and communications equipment for the University's instruction, research, and administrative programs. The Center reports administratively to the Vice President for Academic Affairs.

The present facilities include a Digital Equipment Corporation VAX 8200 and a Sperry 1100/72 main-frame computer with state-of-the-art education and administrative applications. The systems provide support for the BASIC, FORTRAN, COBOL, C, LISP and F77 programming languages, as well as Statistical Package for the Social Sciences, Interactive Financial Planning System, and MINITAB. Labs distributed throughout the campus provide students with access to more than 200 microcomputers and terminals. Additional microcomputers have been added to the labs in 1989/90. In addition to this equipment, an IBM System 36 computer and a number of terminals and microcomputers are used for Administrative functions such as registration, grade reporting, admissions, and financial recordkeeping.

The Center provides a professional staff to serve Duquesne faculty, staff and students. Included in these services are state-of-the-art seminars, consulting, and data entry. Student aides in the computer

laboratories are available for consultation regarding use of the facilities.

During 1986/87 the university approved a long-range plan for computing and communications on the campus. The current mainframe computers will be replaced by more powerful systems, micro-computer labs are to be installed in every major campus building, a fiber-optics network will be installed to provide campus-wide communication and to provide gateways to national and international networks and data bases. Both the university library and the law library are anticipated to be fully automated, with direct access to catalog files through workstations on campus or from the home.

Part II: Admission and Financial Aid

Admission

OFFICE OF ADMISSIONS

The Office of Admissions is located on the first floor of the Administration Building.

Telephone: (412) 434-6220, 434-6221, 434-6222

(800) 456-0590 (Outside of 412 Area Code)

Office hours: Monday through Friday from 8:30 A.M. to 4:30 P.M.

POLICY

It is the policy of Duquesne University to admit applicants who are best qualified to profit from opportunities which the University offers for intellectual, spiritual, and social growth. In general, admission is based upon past academic performance, scholastic ability, and personal characteristics. Information about religious preference, sex, racial characteristics, and ethnic origin is not taken into consideration by the Committee on Admissions.

ADMISSION REQUIREMENTS

1. A candidate should have been graduated from an approved secondary school in the upper three-fifths of the class, and demonstrated exemplary personal conduct in that institution. Applicants who have not completed four years of high school must submit a High School Equivalent Diploma issued by their state department of education.

2. High School curriculum must include 16 units distributed as follows: four units in English; eight units in any combination from the area of social studies, language, mathematics, and science; and four elective units for which the secondary school

offers credit toward graduation. In specific instances, and at the discretion of the Committee on Admissions, the genuine equivalent of these requirements may be accepted in lieu of the precise requirements specified. (Note: Candidates planning to enroll in pharmacy or pre-Health programs, or as science or mathematics majors should have completed a minimum of seven units in mathematics and sciences.)

3. Scores in accordance with the standards adhered to by the University must be presented for the required College Entrance Examination Board Scholastic Aptitude Test (SAT) or the American College Testing Program (ACT). (Note: for admission to the School of Music, an audition is required.)

EARLY DECISION

Students who desire Duquesne University as their first choice for college should consider the Early Decision plan. This plan requires that the student apply by November 15 of his/her senior year. The student is notified of the decision by December 15, and is required to send his/her non-refundable deposit within two weeks. This offers the candidate the advantage of knowing of the admissions decision early in his/her senior year.

APPLICATION—NEW FIRST-YEAR STUDENTS

Applications should be addressed to the Director of Admissions, Duquesne University, Pittsburgh, Pennsylvania 15282. It may be submitted at any time during the candidates' senior year up to July 1, for the Fall semester.

The application procedure is as follows:

1. Obtain, complete, and file the Application for Admission with the Office of Admissions.
2. Include the \$20 non-refundable application fee with the application form. International students must pay a \$30 non-refundable application fee. No application will be processed for consideration by the Committee on Admissions unless accompanied by the required fee.
3. Request the secondary school principal or guidance counselor to submit a transcript of the candidate's academic record. A recommendation is requested.
4. Complete the required SAT or ACT examination during the spring of junior year and/or fall of senior year. It is the personal responsibility of each candidate to have test scores forwarded to the University.
5. An interview is highly recommended for prospective students. Auditions are required for School of Music applicants.
6. Students interested in being considered for University Scholarships should submit their application by January 15 of their senior year.

7. Early Decision Deadline (for students who have Duquesne as their first College choice) is November 15. Notification will be by December 15. If accepted under the Early Decision Plan, commuting students are asked to submit a non-refundable tuition deposit of \$100 within two weeks. Resident students are asked to submit a \$250 nonrefundable deposit.

8. Notification of decisions for regular admission begin once Early Decision applicants have been notified. If accepted, students are asked to submit a non-refundable tuition deposit of \$100 for commuters or \$250 for resident students by May 1 of their senior year.

It is the responsibility of the applicant to arrange to have all supporting credentials on file with the Office of Admissions and Financial Aid Office prior to the deadline dates.

EARLY ADMISSION

Although the University believes that most students profit from four years in the secondary school, the Early Admission plan is open to outstanding students. This is a plan whereby unusually able and mature candidates who have completed less than four years of a secondary school program may apply for consideration to begin college after their junior year. The high school diploma is awarded following successful completion of their freshman year in college. Two separate interviews are required. Further details may be obtained by telephoning or writing to the Admissions Office.

APPLICATION—OTHER CATEGORIES

It is the responsibility of persons who apply for evening study, or as international students, readmission students, transfers, or for the Summer Session to arrange to have all supporting credentials on file with the Office of Admissions and the Financial Aid Office before deadline dates.

ADMISSION OF UNDERGRADUATE INTERNATIONAL STUDENTS

Application Criteria

Duquesne University welcomes applications from qualified international students interested in entry as either freshmen or transfer applicants.

Eligibility criteria for application as a first-year freshman student include:

- a) graduation from a secondary school recognized as an acceptable equivalent to a U.S. high school, and
- b) a demonstrated record of acceptable academic success.

Eligibility criteria for application as a transfer student include the above criteria for freshmen-level applicants plus successful completion of some post-secondary study at a recognized institution of higher education either in the applicant's home country or in another country, including the U.S.A. Duquesne

University processes requests for transfer credit evaluation according to guidelines established by the academic unit to which an application is submitted.

English Language Proficiency Requirements

English is the language of instruction at Duquesne University and demonstrated language proficiency is required of all international applicants.

Since Duquesne University maintains an on-campus Intensive and Semi-intensive English as a Second Language Program (ESLP), qualified undergraduate applicants may be accepted to academic degree programs **conditionally** upon completion of English language requirements at Duquesne University.

All accepted international students, whose native language is other than English, are administered an English Language Placement Test upon arrival. If additional assistance with English language proficiency development is indicated, then the student is referred for appropriate ESL coursework on either an intensive or semi-intensive basis.

Up to six units of academic credit, applicable towards elective credit requirements, may be awarded for ESL coursework successfully completed by eligible international students accepted into academic degree programs at Duquesne University.

NOTE: Undergraduate applicants who have completed one year or more of successful postsecondary study in the United States or who submit acceptable scores (current to within one year) on the Test of English as a Foreign Language (TOEFL) may qualify for conditional waiver directly into full-time academic coursework. Therefore, while TOEFL scores are not required in order to receive an undergraduate admissions decision, submission of TOEFL scores is strongly recommended. The Duquesne University TOEFL Institution Code is 2196.

Application Procedures

Interested applicants should submit the following items:

- a) Duquesne University Undergraduate International Application Form;
- b) Completed Duquesne University Affidavit of Support Form along with required accompanying financial resource certifications,
(NOTE: Limited scholarships are available to undergraduate international students);
- c) Certified copies of all academic records of secondary and any post-secondary study;
- d) One letter of recommendation; and
- e) Application fee in the amount specified on the application form.

Duquesne University is authorized under federal law to enroll nonimmigrant alien students. However, no immigration documents can be issued until all

application materials, including financial resource certification, have been received. In order to complete on-campus arrival orientation, language proficiency testing, and registration, accepted international students should plan to arrive approximately one week before semester classes begin.

Applicants To English as a Second Language Program

The same application procedures detailed above may also be used by international students interested in applying *only* for English language study in the Duquesne University English as a Second Language Program (ESLP).

The ESLP is open to qualified international students interested in studying only English on either a short- or long-term, non-degree, certificate of completion basis. A fuller description of the English as a Second Language Program is found on page 38.

Additional Information on International Student Applications

Please direct all inquiries and requests for additional information and application materials to:

Director

Office of International Education

Duquesne University

Pittsburgh, Pennsylvania 15282

U.S.A.

Telephone: 412-434-6113

FAX: 412-434-5178

POST-GRADUATES

Post-graduates are students who already have a Bachelor's degree, and desire to take undergraduate courses at Duquesne, but are not interested in pursuing another undergraduate degree.

A Post-graduate student must submit a Post-graduate application to the Division of Continuing Education if the Bachelor's degree was received from an institution other than Duquesne. Proof of degree is required either by an official transcript or a certificate of graduation.

READMISSION

Any student who withdraws from the University must apply for readmission through the Office of Admissions regardless of the time interval involved since withdrawal. A student who is dismissed for academic reasons must appeal to the Committee on Student Standing of the school to which application of admission or readmission is being made, once the application has been submitted to the Admissions Office.

TRANSFERS

A student who wishes to transfer from another college or university must have the complete transcripts of high school and college records forwarded to the

Office of Admissions and must submit an application for admission. When accepted, the student must supply to the dean of his school a description of the courses which appear on the transcript. The student should contact the Advisement Office of his school for placement and curriculum planning following a reasonable period for evaluation of transcript.

The College of Liberal Arts and Sciences and School of Education award 60 semester hours of credit to accepted transfer applicants who have an Associate Degree in Arts from a regionally accredited two-year institution.

Students transferring from a regionally accredited institution must present academic records which show an overall average of C (2.0 on a 4.0 quality point system).

Persons seeking admission to the University as transfer students from a state approved college which does not have regional accreditation must have attained a cumulative average of 3.0 based on a 4.0 quality point system. In addition, such prospective students must take the College Entrance Examination Board tests and attain the appropriate scores.

An interview is highly recommended for all transfer students and will be required of those students which the Admissions Office notifies personally.

TEMPORARY TRANSFERS

Temporary Transfers are students who are enrolled in another college or university but who desire to take a course or courses at Duquesne for one semester.

No Temporary Transfer Student will be granted admission without formal application and an official transcript or permission from an official at the University at which the student is enrolled. A Temporary Transfer Student must reapply if he/she should desire to take a course or courses at Duquesne University beyond one semester.

No Temporary Transfer shall be permitted to register for more than two semesters without making arrangements to become a permanent transfer.

SUMMER SESSION

DUQUESNE STUDENTS

Any Duquesne University undergraduate student who was granted continuance at the close of the preceding Spring Semester is authorized to register in the Summer Session. Students who were dismissed by their school at the close of the preceding Spring Semester for academic reasons may register for summer classes by permission of the Committee on Student Standing of their school. All students must have their course selections approved by their academic advisor.

Graduates and other former students, including

any who withdrew from the University, must obtain readmittance before they may register for summer classes.

STUDENTS FROM OTHER INSTITUTIONS

A student of another college or university who wishes to enroll for the summer session, and who intends thereafter to return to the original institution and is eligible to continue there may be admitted to the Summer Session. A tear-out admissions application and registration form for the summer study is provided in the announcement of summer offerings, which may be obtained from the Summer School Office at mid-March. These students are considered to be Temporary Transfer Students.

ADVANCED PLACEMENT

Students who have followed the College Entrance Examination Board college level program in secondary schools and have performed satisfactorily in the advanced placement examinations are eligible for advanced placement. Duquesne University grants credit, as well as placement, for achievement that merits such consideration. Subjects included in the program are: English composition, history, (American and European), history of art, modern foreign languages (French, German, Spanish), Latin, mathematics AB, mathematics BC, physics B and C, chemistry, biology and computer science.

Credit will be given on a minimum advanced placement score determined yearly by the College of Liberal Arts and Sciences. For current information about the minimal score acceptable for each subject and the credits granted, consult with the University's Director of Testing Bureau or the Academic Advisement and Referral Center.

Applicants who hope to receive advanced placement credits must request that scores be sent to the University. Information about equivalent University scores for which qualifying students may receive credit may be obtained from the University's Director of Testing Bureau or the Assistant Dean for Administration, College of Liberal Arts and Sciences.

COLLEGE LEVEL EXAMINATION PROGRAM

The special examinations for which the College of Liberal Arts and Sciences will award credits, with acceptable scores, are:

1. *General Examinations:* Humanities, social sciences.
2. *Subject Examinations:* American government, American history, analysis and interpretation of literature, biology, calculus II elementary functions, college algebra, college algebra-trigonometry, college composition, computers and data processing, elementary computer programming, general

chemistry, general psychology, introductory business management, introductory marketing, (only validation of comparable course(s) taken at regionally accredited schools where courses were offered at the 200 level or above. Students must have completed the course(s) with a "C"-or better to be eligible.), introductory sociology, macro-economics, micro-economics, western civilization.

A student who has accumulated 30 or more credits is not eligible to take the General Examination for credits. When a student has acquired 60 credits he will not be given credits on the basis of CLEP exams. This total of 60 includes the CLEP credit; i.e., if a student has completed 57 credits, he could not receive more than 3 credits on CLEP exams. The University is continuing to evaluate CLEP subject scores and performance at Duquesne. Credit will be given on a minimum score determined yearly by the College of Liberal Arts and Science.

Exams must be taken according to the usual progression of courses. The exam in College Algebra or College Algebra/Trig must be taken before a student registers for Calculus I.

Information about the time and place that examinations are given may be obtained from the University Testing Bureau, or the College Level Examination program, Box 977, Princeton, New Jersey 08540. Information about equivalent University courses for which qualifying students may receive credit may be obtained from the University's Director of Testing Bureau or the Assistant Dean for Administration, College of Liberal Arts and Sciences.

CREDIT HOUR BANK

The Credit Hour Bank program is designed for high school students and adults who would like to sample college courses prior to official enrollment. The maximum number of credits that may be taken is 15. Credits completed in the Credit Hour Bank are held in escrow until the applicant applies and fulfills all regular admission requirements. Upon regular admittance, all credits are then evaluated toward a degree program.

To apply to the Credit Hour Bank Program, submit the \$20 non-refundable application fee, and attach a letter indicating full comprehension and acceptance of the conditions of the Credit Hour Bank Program. A form is available for this purpose and can be obtained by contacting the office of Admissions.

Generally, all first year courses in the College of Liberal Arts and Sciences and the School of Education are open to Credit Hour Bank students. The School of Music also participates in the Credit Hour Bank program providing the applicant passes a music audition.

Financial Aid

Duquesne University subscribes to the philosophy that "no student should be denied the education of his/her choice for lack of sufficient financial resources." The Office of Student Financial Aid has been established to help students locate the financial support they require. Students and parents should not be overwhelmed by the variety and apparent complexities of modern student financial aid. Rather, a patient thorough examination of aid opportunities should be undertaken to locate the most advantageous forms of assistance available to the individual student.

PRINCIPLES OF AID FINANCIAL NEED

The major criterion of most aid programs is the student's need for funds. In general, parents and the student are expected to pay the expenses of education. However, to the extent they cannot reasonably be expected to meet this expense, there is a *demonstrated financial need* or eligibility for aid. Methods of determining need may vary slightly among aid sources, but all have the common objective of identifying the difference between educational costs and the individual family's ability to contribute to these costs. The costs considered include tuition, fees, room and board or an allowance for maintenance at home, travel or commuting expenses, books, and necessary personal expenditures. Need analysis presumes the family's ability to contribute to these costs will approximate that of families of similar size and financial strength, with consideration given for individual circumstances. It is extremely important that all financial information reported by the family be *complete, accurate, and updated* for any major changes. Such information is considered and treated confidentially by aid administrators.

AWARD CONDITIONS

All financial aid awards are subject to terms and conditions set forth in applications and award notifications. It is important that the student carefully read all information provided by aid sources and promptly notify them of changes pertinent to their applications or awards.

STUDENT SELF-HELP

As the primary beneficiary of higher education, the student is expected to accept at least partial financial responsibility for the cost. This principle is reflected in both the determination of need and the types of aid available. In determining need, consideration is given for at least a minimum contribution to cost from the student's summer earnings,

savings, and resources. Two types of self-help programs of aid are available: loans and work. Student loans provide rates, terms, and conditions superior to those offered by commercial lenders, and offer the student the opportunity to help himself/herself by accepting future repayment responsibility. Student employment programs provide the opportunity to help earn a portion of the educational costs.

GIFT ASSISTANCE

Non-repayable scholarships or grants are available in accordance with one or a combination of the following criteria: 1) *Financial Need*; 2) *Superior Academic Potential or Achievement*; and 3) *Special Ability*, which reflects proficiency in a specialized field or activity, such as music, debate, athletics, etc. It should be noted that many sources of gift aid expect the student to accept some form of self-help assistance.

MEETING STUDENT NEED

The Financial Aid Office *attempts* to provide aid equal to need for all student applicants. Normally, this requires an "aid package" consisting of funds from multiple aid sources and programs. Those programs which are under the direct control of the Aid Office are not usually sufficient to meet full need or provide an aid package of the most beneficial composition. It is expected that students who apply for assistance to the University will also apply to federal, state, and other available sources.

PROGRAM FUNDING

All programs of financial aid are subject to limitations of available funds. Therefore, in addition to the eligibility requirements of a particular program, assistance depends upon the level of funding in the program. First consideration always goes to applicants who apply within deadline dates and who provide *complete and accurate* information. All programs are subject to change, elimination, or replacement. Changes in government programs are routine, since these require periodic legislative review.

CURRENT INFORMATION

Because programs of aid and conditions of eligibility do change from time to time, the student should attempt to keep abreast of new developments. The high school guidance office, the University Financial Aid Office, and the office of education in the student's home state are excellent sources of information. Students should avoid the error of disqualifying themselves for specific forms of aid because of hearsay or dated information. A decision not to apply to particular aid source should be made only upon the advice of an aid officer.

UNIVERSITY AID APPLICATION PROCEDURE

1. Applicants must be currently enrolled in the

University or be in the process of applying for admission. Incoming students should not wait for official acceptance to the University before applying for financial assistance.

2. Obtain the formal application for financial assistance. (Freshmen and transfer students may obtain the form through Admissions Office publications or through the Financial Aid Office. Currently enrolled students may obtain the form only through the Financial Aid Office.) Complete this application and submit it to the Financial Aid Office, Duquesne University, Pittsburgh, Pennsylvania 15282 PRIOR to these deadline dates: For the Fall Semester or the academic year, no later than May 1; for the Spring Semester, no later than December 1. Late applicants will be considered on the basis of available funds.

3. Obtain from the high school guidance office or the Financial Aid Office a Financial Need Document. Complete and submit it according to instructions. Statements take four to eight weeks to process and therefore should be submitted as early as possible.

4. A reply to this application, if filed by deadline dates, should be anticipated as follows: Freshmen and new transfers: between mid-February and late March (providing student has been accepted for admission). Upperclassmen: Replies should be anticipated in June or July.

5. Applications must be filed annually.

PROGRAMS

The following programs for which the foregoing application procedures apply, are administered directly by the Financial Aid Office. All awards are based on available funds.

Chancellor's Awards. The University awards scholarships annually to exceptional high school seniors. These awards are not based on a demonstrated need and are renewable yearly provided the student maintains a minimum cumulative Quality Point Average of 3.50.

Founders Awards. The University awards scholarships annually to outstanding high school seniors. These awards are not need based and may be renewed each year provided the student maintains a minimum cumulative Quality Point Average of 3.00.

President's Scholarships. These awards are given to students of outstanding ability and achievement who also demonstrate financial need. They are renewable yearly based on continued need and a minimum cumulative Quality Point Average of 3.00. Amounts vary relative to need. First time applicants who enrolled as freshmen in Fall of 1989 or later are considered based on demonstrated need and a minimum cumulative Quality Point Average of 3.00. First time upperclass applicants must also have completed at least 30 credits at Duquesne.

University Scholars Awards. These awards are available only to current recipients. They are not need

based and are renewable provided the student has maintained a minimum cumulative Quality Point Average of 3.00.

Competitive Scholarships. These awards are based on academic achievement and financial need and are available only to students who enrolled prior to Fall of 1989. Renewal awards are based on continued need and a minimum cumulative Quality Point Average of 3.00. First time applicants will be considered based on demonstrated need and a minimum cumulative Quality Point Average of 3.00. First time applicants must also have completed at least 30 credits at Duquesne.

Parish Grant-In-Aid Program. Available to incoming freshmen from the parishes in the Roman Catholic Diocese of Pittsburgh. Students are recommended by their pastor to the University's Admissions Office. Awards are based on academic achievement and demonstrated need. They are renewable yearly based on continued academic achievement and continued need. Continued academic achievement is normally reflected by a cumulative Quality Point Average of 2.75 and above. Renewal amounts may vary relative to the level of need.

Spiritan Grant-In-Aid Program. Available to minority students who are incoming freshmen. Awards are based on academic achievement and demonstrated financial need. They are renewable yearly based on continued academic achievement and continued need. Continued academic achievement is normally reflected by a cumulative Quality Point Average of 2.75 and above. Renewal amounts may vary relative to the level of need.

Scholars/ROTC Awards. Merit based awards are given to high school seniors who are also recipients of 4-year ROTC Scholarships and who will reside in campus dormitories. These awards are not need based and may be renewed yearly provided the student continues to be an ROTC Scholarship recipient, resides in campus dormitory and maintains a minimum cumulative Quality Point Average of 3.00.

Transfer Scholars Awards. Merit based awards given to qualified graduates of Community College recommended by Admissions Office. These awards are not need based and may be renewed provided the student maintains a minimum cumulative Quality Point Average of 3.00.

Incentive Grants. Awards are made to incoming students in specific areas of studies. Awards are renewable provided the student maintains a minimum cumulative Quality Point Average of 2.75 and continues enrollment in the original school and/or major.

Supplemental Educational Opportunity Grants. Federal grant assistance is available to full- or half-time undergraduate students with exceptional financial need. It should be noted that due to limited fund-

ing, these grants are normally awarded only to full-time students. Recipients are selected in accordance with guidelines published by the Federal Government.

Perkins Loan Fund. Perkins Loans are available to both full-time and half-time students who demonstrate financial need and are making acceptable progress toward a degree. It should be noted that due to limited funding, these loans are normally awarded only to full-time students. Recipients are selected in accordance with guidelines published by the Federal Government. Loan repayment does not begin until nine months after the borrower terminates at least half-time study, and is scheduled over a 10-year period at an interest rate of five percent a year.

Federal Nursing Loans. These loans are available to full-time undergraduate nursing students who demonstrate financial need and are making acceptable progress toward a degree. Recipients are selected in accordance with guidelines published by the Federal government. Loan repayment does not begin until nine months after the borrower terminates at least half-time study in nursing, and is scheduled over a 10-year period at an interest rate of five percent a year.

Health Professions Loans. Health Profession Student Loans are available to full-time undergraduate students in the Bachelor of Science in Pharmacy program who demonstrate financial need and are making acceptable progress toward a degree. Recipients are selected in accordance with guidelines published by the Federal government. Loan repayment does not begin until one year after the student ceases to pursue a full-time course of study in pharmacy, and is scheduled over a 10-year period at an interest rate of five percent a year.

Alcoa Loan Fund. Loan fund established through the Alcoa Foundation. Awarded to full-time students who demonstrate financial need. Repayment begins six months after termination of enrollment, with a five year repayment period. Interest rate is nine percent.

Gulf Loan Fund. Loan fund established through the Gulf Oil Corporation. Awarded to full-time students who demonstrate financial need. Repayment begins six months after termination of enrollment, with a five year repayment period. Interest rate is four percent. Funds are normally awarded to students in their final year who have exhausted other loan eligibility.

Kerschgens Loan Fund. Loan fund established through the Johanna W. Kerschgens Estate to be awarded to residents of Allegheny County who demonstrate financial need. Repayment begins six months after termination of enrollment, with a five year repayment period. Interest rate is five percent.

Power Loan. Loan fund established through the Stanley K. Power Trust of the Pittsburgh Foundation. Awarded to needy full-time students who are residents of Allegheny County. Repayment of four-fifths of amount borrowed within ten years of graduation or termination of studies at 0% interest.

Student Employment. Two programs of employment are available to financial aid applicants who demonstrate need. The first is the College Work-Study Program which is financed principally by Federal appropriations and awarded as aid in accordance with guidelines published by the Federal government. The second program is referred to as the General Program which is funded by the University. In addition to considerations of financial need, placement in a part-time position depends upon the student's qualifications for performing successfully in the job. Student employment is limited to maximum of fifteen working hours a week when classes are in session. Students working under either program may not retain outside jobs during academic periods. Clearance is determined based on financial guidelines. Placement in available positions is handled by the Office of Human Resource Management.

OTHER SOURCES OF AID

PELL GRANT PROGRAM

Direct grant assistance through the Federal government is available to undergraduates based on an eligibility determination reviewed and adjusted each year by Congress. All undergraduates are advised to apply for this form of aid. Student receiving aid through the University are required to apply for a Pell Grant. Necessary forms may be obtained through the Financial Aid Office or the High School Guidance Office.

STATE GRANT ASSISTANCE

General: Depending upon the student's legal state of residence, direct grant assistance from the state may be available for study at Duquesne University.

Non-Pennsylvania residents should contact their high school guidance counselor or state Department of Education to determine if grants are available, and to determine application procedures.

Pennsylvania residents should obtain the State Grant Application from high school guidance offices, the University Financial Aid Office, or the Pennsylvania Higher Education Assistance Agency (PHEAA). At current levels, grants ranging from \$100 to \$2100 a year are available to full-time undergraduate students, based on considerations of financial need. Filing deadline is normally May 1.

STAFFORD LOANS (Formerly Guaranteed Student Loans)

This program provides long-term, low interest stu-

dent loans available through the cooperative efforts of federal and state governments and participating private lending institutions. These loans are available to students enrolled in an institution of higher learning on at least a half-time basis. They are provided by commercial lending institutions in every state. To apply, the student should inquire at a local lending institution where the student or parents have an account. Subsidized loans are need based and require a needs analysis document. Pennsylvania provides a non-subsidized loan. However, a need document must be filed to establish ineligibility for a subsidized loan. The maximum that an undergraduate student may borrow for any academic level is \$2,625 for each of the first two levels, \$4,000 for each remaining undergraduate level. A four to six week processing period should be anticipated.

Parent Loans for Undergraduate Students/Supplemental Loans for Students. Loans are available to parents of DEPENDENT undergraduate students; INDEPENDENT undergraduates may apply themselves. The maximum amount that can be borrowed for any academic level is \$4,000. Repayment begins 60 days after disbursement of funds. Applications and information are available through banks and other lending institutions.

OTHER POSSIBILITIES

In addition to mass programs of aid previously described, financial assistance may be obtained from a wide variety of sources. Since application procedures and requirements differ greatly, it is not possible to provide specific information. In general the student seeking potential sources of aid may inquire of: 1) high school guidance counselors; 2) parents' employers or labor unions; 3) fraternal, social, religious or professional organizations; 4) major organizations utilizing the skills of the field for which the student is preparing; and 5) specific departments within the University.

AID FROM DEPARTMENTS AND SCHOOLS

COLLEGE OF LIBERAL ARTS AND SCIENCES

The Eleanor Polis Capone Memorial Award. The award honors, in perpetuity, the memory of Eleanor P. Capone. The scholarship consists of the total annual income from a restricted growth endowment fund and is awarded to an undergraduate student enrolled at the University, who will be selected on the basis of merit in the field of creative writing, with need a secondary consideration. Interested students should contact the Chairperson, Honors and Awards Committee, English Department, prior to January 15.

Andrew Kozora Memorial Scholarship. This award was

established to honor, in perpetuity, the memory of Andrew Kozora. Full-time third or fourth year students enrolled at Duquesne University and having declared a major field of study to be either Physics or Mathematics, are eligible for such scholarship. The primary considerations will be financial need with academic achievement secondary. Recipients are selected by the University's Director of Financial Aid upon nominations by the Chairperson of the Physics or Mathematics Departments after they have previously consulted with the Dean of the College of Arts and Sciences.

The Rev. Joseph A. Lauritis, C.S.Sp., Communication Scholarship. This is an annual scholarship in tribute to the Rev. Joseph A. Lauritis, C.S.Sp., founder of the former Department of Journalism and the University's radio station, WDUQ-FM. It is available to a freshman entering Duquesne University who is planning to major in Communication. The award is administered by the Lauritis Scholarship Committee of Communication faculty and friends. Deadline for application is April 1. This award is not renewable.

Edward T. Leech Scholarship. This annual scholarship was established in 1971 by the Scripps-Howard Foundation for communication junior/senior students who demonstrate outstanding academic promise, concurrent financial need, and are preparing for a career in the newspaper or broadcasting fields. It is administered by the faculty of the Department of Communication.

Colecchia Scholarship Award. The award honors in perpetuity, the memory of Albert and Ambrosina Colecchia. The Scholarship award is available to juniors and seniors in the undergraduate College of Arts and Sciences majoring in any of the following disciplines: Modern Language, Literature, Classics, Philosophy, English, Math, Chemistry, Computer Science, Physics, or Biology. All recipients must be full-time students of proven scholastic achievement, be of good moral character, and demonstrate a potential for leadership. The scholarship is awarded annually.

Chivers Scholarship Award. The award honors Frances Jahrling Chivers and is available to Junior or Senior English majors. Recommendations made by Chair of English Department. Selection by representatives of Chivers family and Financial Aid Office.

SCHOOL OF BUSINESS AND ADMINISTRATION

Accounting Scholarships. Twenty \$1,000 scholarships are awarded annually to students whose major area of concentration is accounting. Ten are awarded to juniors and 10 to seniors. The scholarships result from an endowment funded by the "Big Six" accounting firms as well as local accounting firms. Applications are available in the Office of the Dean

of the School of Business and Administration. Completed applications must be received in the Dean's Office by October 1 of each academic year. Recipients are selected by the School on the basis of academic achievement. Need is also a factor.

SCHOOL OF EDUCATION

School of Education Scholarships are available to freshmen and transfer students who were among the top fifth of their high school class or who maintained a 3.0 high school average. Transfer students applying for these scholarships must have a "B" average from colleges attended. Applicants are required to submit three recommendations representing the areas of academic performance and personal achievement. An interview is also required to discuss individual perceptions and ideals, as well as a statement of career goals. Freshmen applicants must have an SAT score of at least 900, with a minimum of 400 on any one test. Transfer applicants must be new students to Duquesne. To apply, contact the School of Education. For renewal requirements and procedures contact the Office of Financial Aid.

Lawrence Roche Memorial Scholarship. The award will be made to a student who, as a junior in the School of Education, has in the judgment of the Awards Committee, demonstrated those qualities of scholarship, character, and professionalism which merit special recognition. The awardee must have a minimum Quality Point Average of 3.0 at the time of application. The student must be officially registered as a senior in the School of Education of the University at the time of receiving the award. Applications must be submitted to the Dean's office no later than March 1.

SCHOOL OF MUSIC

Women's Advisory Board Scholarships. This fund provides scholarships in varying amounts each year to outstanding performers. These scholarships are awarded on the basis of an annual competition.

Polish Arts League Scholarship. This award is made annually by the Polish Arts League of Pittsburgh to an outstanding performer in the School of Music.

Music School Scholarships. These awards are made possible by donations from individuals and organizations in appreciation of performances as well as leadership contributions by School of Music students.

Robert Minardi Memorial Scholarship Fund. Awarded to needy undergraduate Music students, with academic considerations a secondary criterion. Recipients are selected by the School of Music, but must also file application through the Financial Aid Office.

Anne Patton and George Locher Award is awarded on an annual basis to an outstanding performer in the Music School.

James Hunter Memorial Award was established in memory of one of the school's most distinguished faculty members. The award is based upon musical and scholarly excellence.

Other Awards Recently Established Are:

The Presser Scholar Award, Loyal Christian Benefit Association Award, Henrietta Voyvodich Memorial Scholarship Fund, Matty and Ed Shiner Scholarship Fund, Alfred d'Auberge Award and Paul Sladek Memorial Fund.

SCHOOL OF NURSING

Behan Scholarship. The R. J. Behan Annual Nursing Scholarship is a \$500 scholarship awarded annually to a nursing student who is in good academic standing. The award is based on need, professional involvement and future aspirations. Students may apply in the School of Nursing in early fall.

Miller Scholarship. A scholarship established in memory of Constance Miller, R.N., M.S.N. The fund provides a scholarship in varying amounts awarded annually to a needy and deserving R.N. student who is in good academic standing.

Schreiber Scholarship. The fund provides a scholarship in varying amounts awarded annually to a junior or senior undergraduate nursing student who has excelled in clinical performance.

SCHOOL OF PHARMACY

Unless stated otherwise apply through the School of Pharmacy for the following awards.

Women of Galen. The Women's Auxiliary of the Galen Pharmaceutical Society of Pittsburgh annually provides scholarship funds to be awarded to deserving pharmacy students in their last years of attendance in the School of Pharmacy.

Beaver County Pharmaceutical Association Grant and Aid Fund. This revolving loan fund provides financial assistance to two students in the School of Pharmacy who are residents of Beaver County, Pennsylvania.

Samuel W. Curtis Loan Fund. This fund is intended to provide financial assistance for students in the School of Pharmacy.

Chilson Loan Fund. A revolving loan fund established in 1946 through the generosity of Francis P. Chilson and expanded by the contributions of Pharmacy alumni provides financial assistance to worthy students in the School of Pharmacy.

Joel P. Laughlin Scholarship. In honor of Joel P. Laughlin, a fraternity brother whose life was terminated early in his professional program. The Graduate Chapter of Phi Delta Chi annually awards three \$200 scholarships to one fraternity brother in each of the three professional years. The recipients must have demonstrated academic achievement and active participation in the function of the Fraternity.

Peter and Dorothy Manzione Memorial Fund. A revolving fund, donated by Rosetta and Geraldine Manzione and friends of the family, is available to all students in the School of Pharmacy.

Clinton Eddy Goodwin Memorial Scholarship. This scholarship was established to honor the memory of Clinton Eddy Goodwin by making annual awards to deserving Pharmacy students. Candidates must be a declared Pharmacy major, attained a minimum quality point average and have an interest in and demonstrated support of the University's Athletic Program. Apply through the Dean of Students Office.

Mary McPartland Beck Scholarship Award. Scholarship funds are available from earnings on a fund started by a bequest to the School of Pharmacy in 1970.

NARD Foundation. Established by the National Association of Retail Druggists. This foundation provides loans to students of pharmacy in their last five semesters for payment of tuition, fees, and books.

Galen Pharmaceutical Society Loan Fund. This revolving fund was established in 1963 for the purpose of providing financial assistance to worthy students of pharmacy during times of urgent financial distress.

Fred Schiller Loan Fund. This loan fund was founded by Mr. Fred Schiller, Pittsburgh pharmacist, in memory of the late Emanuel Spector, for worthy and qualified students in the School of Pharmacy. This revolving fund makes available tuition loans of varying amounts depending on the applicant's need and general ability.

John Clothier Sims Memorial Fund. This revolving fund, established in 1954, was made possible through the generosity of the friends of the late Mr. Sims, executive of Sun Drug (now Brooks) Company, Pittsburgh. Partial tuition loans are made available to students under the conditions that apply to the Fred Schiller Loan Fund.

Pittsburgh Graduate Chapter of Kappa Psi Pharmaceutical Fraternity. Maintains a revolving loan fund for members of the undergraduate chapters. Details are available from the School of Pharmacy.

Rite Aid Scholarship. Scholarships from the Rite Aid Corporation available to students entering the final year of the pharmacy program. Selection is based on financial need, demonstration of normal progress, and good standing in the pharmacy program.

Tau Alumni Chapter of Lambda Kappa Sigma. This professional Pharmacy fraternity for women has established financial awards for members in their last three years of the pharmacy program. Awards are based on financial need and participation in the organization.

Dr. B. Olive Cole Graduate Educational Grant. A \$300 grant is offered by Lambda Kappa Sigma to financially assist an alumnae member who is enrolled in

a program of graduate study and research in the pharmaceutical sciences. Applications must be received by the chairman of the grant committee by November 15. Applications are available in the School of Pharmacy Office.

Burroughs Wellcome Loan Fund. A revolving loan fund established by donations of Pharmacy alumni who are awarded Burroughs Wellcome Educational Grants. Interest-free loans are available to qualified Pharmacy students.

Gray Drug Fair, Inc. Scholarship Fund. Educational grants are available to qualified Pharmacy students, based on good academic standing and normal progress in the pharmacy program and demonstrated financial need.

WONARD Scholarship. The Women's Organization of the National Association of Retail Druggists offers annual scholarships for pharmacy study in accredited colleges within the United States. The award amount is determined by the established need and the academic standing of the applicant. Apply directly to WONARD by June 1.

Donald Bell Memorial Scholarship Fund of Thrift Drug Company. Scholarships are awarded annually to deserving Pharmacy students who are entering the third or fourth year in the B. S. in Pharmacy curriculum. Selection is based on a combination of scholarship and need and a demonstrated interest in community pharmacy practice.

Geraldine (Muia) Furgiuele Scholarship Fund. A memorial scholarship fund to honor Geraldine (Muia) Furgiuele, P'50. The fund will provide scholarships for needy and deserving female students in the School of Pharmacy.

Rosemarie Bevacqua Scholarship Fund. A memorial scholarship fund to honor Rosemarie Bevacqua, P'55, which will provide financial assistance to needy and deserving Pharmacy students.

School of Pharmacy Alumni Scholarship Fund. Scholarships are made available to needy and academically deserving Pharmacy students through the generous support of the alumni of the School of Pharmacy. Requests for financial assistance should be directed to the School of Pharmacy Faculty Scholarship Committee, Office of the Dean.

School of Pharmacy Class of 1959 Scholarship Fund. A scholarship, established on the 25th anniversary of the graduation of the Class of 1959, to be awarded annually to a deserving and needy final-year Pharmacy student.

National Association of Chain Drug Stores Pharmacy Education Foundation Scholarship. One scholarship awarded annually to a Pharmacy student in the fourth or fifth year of the B. S. in pharmacy curriculum, who has expressed an interest in community pharmacy practice.

American Pharmaceutical Association Auxiliary Irene Parks Loan Fund. Loan funds available to Pharmacy students in the final two years of the B. S. in Pharmacy degree program.

Cora E. Craven Educational Grants. These grants are awarded annually to members in good standing of Lambda Kappa Sigma, enrolled in B. S. in Pharmacy or Pharm. D. programs. (The Mary Connolly Livingston Grant is awarded to a Pharm. D. student.) An applicant must rank in the upper half of her class and present evidence of financial need. Application forms are available in the Office of the Dean.

Powers-Schering Scholarship. A scholarship provided by John O. Powers, Jr. of Exton, PA from an award made to the School of Pharmacy in his name by the Schering Corporation. A scholarship award will be granted to a student entering the final year of the B. S. in Pharmacy program. Applicants must have a minimum 2.5 QPA in the professional program and be in need of financial assistance.

Alfred J. Pfanneschlag, Jr. Memorial Scholarship Fund. A fund was established by the family and friends of Alfred J. Pfanneschlag, Jr., a 1982 School of Pharmacy graduate. An annual award will be presented to a fourth-year pharmacy student, to be applied toward tuition expenses in the fifth year of study. Selection of a pharmacy student recipient will be based on demonstrated financial need and service to the Duquesne University campus community.

Phar-Mor, Inc. Scholarship Fund. A scholarship will be awarded annually to a deserving Pharmacy student entering the fourth or fifth year in the B.S. in Pharmacy program. Selection is based on a combination of scholarship and need and a demonstrated interest on the part of the student in a career in retail pharmacy practice.

Dor Bell Memorial Scholarship Fund. An endowed scholarship fund in memory of Don Bell, P'57, was established by the Bell family in 1989. Contributions were made by the Thrift Drug Company, the National Association of Chain Drug Stores, and his many friends in the pharmacy profession. An annual award will be made to a pharmacy student in years three, four, or five based on scholarship and need.

GENERAL

Awards listed below are not restricted to specific areas of study. However not all are awarded by the Financial Aid Office. Therefore, note should be taken regarding specific application requirements and source of application materials.

The Pittsburgh/Centennial Scholarship was created at the close of Duquesne University's Centennial year (1978) in the spirit of the University's founding mission to provide ready access to higher education for all. The scholarship will be provided to deserving students who have demonstrated high academic

performance, and need, and are residents of Allegheny County. Emphasis will be on performance in selection of recipient. Inquiries should be directed to the Office of Financial Aid.

DUSSO Scholarship Fund. Annually the Duquesne University Student Scholarship Organization sponsors scholarships to help make it possible for deserving students to attend Duquesne. Applicants must be enrolled on a full-time basis, show proven academic ability, be of good moral character, and demonstrate financial need. Application materials may be obtained through the SGA office and must be filed by April 1.

McCloskey Memorial Fund is awarded to students who have demonstrated scholastic ability, good character, and volunteer service to the community. Applications are to be made directly to the Office of the Dean of Students.

Vira I. Heinz Travel Award. This fund was established to provide an educational and cultural opportunity for promising young women students. Recipients are selected on the basis of academic achievement and evidence of interest in intercultural or international relations. Inquiries should be directed to the Office of the Dean of Students.

Nathan and Harry Daly Scholarship. This is an annual award that is to be made to "such deserving person or persons from Butler County, Pennsylvania attending Duquesne University." Selection is made by a committee upon the recommendation of the University's Financial Aid Office. Candidates are considered for academic achievement and financial need. Interested students should apply through the Financial Aid Office.

Elizabeth Elsie McDonough Scholarship. This award was established to assist needy students from Allegheny County to continue their educational endeavors at Duquesne University. Recipients are selected by the University and awards are based on both academic achievement and financial need. Interested students should apply through the Financial Aid Office.

Minnie Hyman Schoiarship. A gift from the Hyman Family Foundation. Awards are based on academic criteria and need. The amount of the awards varies. Recipients are selected by the Financial Aid Office and the Hyman Family Foundation. Interested students should apply through the Financial Aid Office.

James H. and Margaret Lavelle Ferry Memorial Scholarship. This award was established to honor, in perpetuity, the memory of James H. and Margaret Lavelle Ferry by awarding annually a prize to a deserving student in their name. Recipients are selected by the University, with the primary consideration being financial need and academic achievement as a secondary consideration. Recipients must be enrolled as undergraduate students.

Interested students should apply through the Financial Aid Office.

Louis and Ida Amdursky and Benjamin Amdursky Memorial Fund. This fund was established to assist Jewish students who are residents of Allegheny County. Recommendations are made by the University to the Trustees of the fund, and are on the basis of merit and need. Interested students should apply through the Financial Aid Office.

J. W. Rahde Memorial Scholarship Fund. A fund in honor of J. W. and Ruth Lewis Rahde in recognition of their long-time affection for the City of Pittsburgh. Factors to be considered for selection include leadership qualities, good character, strong potential for civic contributions (especially to the City of Pittsburgh) and the ability to relate well with others. Interested students should reply through the Financial Aid Office.

Stella and Charles Guttman Scholarship Foundation. Awards are based on need with academic considerations secondary. Interested students should apply through the Financial Aid Office.

John Joseph Mongillo Memorial Scholarship Fund. Awards are based on financial need. The fund was established through a gift to the University from Marie Locher in memory of her brother, John Mongillo. Interested students should apply through the Financial Aid Office.

Century Club Scholarship. Awarded to needy students in their final undergraduate year. QPA of 3.5 or higher is required. Applications available from Financial Aid Office.

Monsignor Michael J. Conroy Endowed Scholarship Fund. Awarded to needy, full-time undergraduate student who is a child of a member, or a member, of Our Lady of Grace Parish. Eligible students must apply through Our Lady of Grace Parish and the Financial Aid Office.

Hungarian Heritage Endowed Scholarship Fund. Awarded to student in the College of Arts and Sciences or the School of Music, based on need and academic achievement. Order of selection will be (1) Student from Hungary; (2) Student studying in Hungary; (3) Student studying Hungarian; (4) Student of Hungarian Heritage; and, (5) a needy and worthy student of any cultural derivation if there are no students who qualify under the first four categories. Applications available from Financial Aid Office.

Frank H. Kirk Memorial Scholarship Endowment Fund. Awarded to needy and deserving students. Applications available from Financial Aid Office.

Mary H. & Peter Loftus Scholarship Fund. Awarded to needy and deserving students. Applications available from Financial Aid Office.

James L. & Paul L. McGrath Scholarship. Awarded to needy and deserving students. Applications available from Financial Aid Office.

William J. Hart Scholarship. Awarded to needy students for books and personal expenses. Award can also be used for room and board. Applications available from Financial Aid Office.

Jerry Smith, II Memorial Scholarship Award. Awarded to needy students with average grade point average. Applications available from Financial Aid Office.

Wayne County Scholarship. Awards for Wayne County Residents, with consideration given to children of employees or residents of Sterling Township. Q.P.A. of 2.6 required for renewal. Applications available from Financial Aid Office.

Maria B. Statler Trust. Awarded to needy and deserving students. Applications available from Financial Aid Office.

Donald L. Very Memorial Scholarship. Awarded to needy students who have demonstrated academic achievement. Applications available from Financial Aid Office.

Rev. Joseph A. Young Endowed Scholarship Fund. Awarded to needy and worthy students. Preference given to members of St. Aloysius parish, Pittsburgh. Applications available from Financial Aid Office.

Allan Reynolds Memorial Fund. Awarded to needy and deserving students. Applications available from Financial Aid Office.

Eberly Family Endowed Scholarship. Fund established by the Eberly Family Trust primarily to assist students from Fayette County. Secondary consideration to be given to residents of Greene, Washington and Westmoreland Counties in Pennsylvania and then to West Virginia. Based on superior academic achievement, good moral character and financial need. Applications available from Financial Aid Office.

Merle E. Gilliland Scholarship. Fund established through Pittsburgh National Bank to honor Merle E. Gilliland. Awards are based on financial need, academic achievement and good character. Recipients are selected by a Financial Aid Office/PNB Scholarship Committee.

Theodore T. Meyers Scholarship. Scholarship established by the family of Theodore T. Meyers to be awarded on the basis of need. Preference is given to children of parents who are members of the Graphic Arts International Union - Local 24. Applications available from Financial Aid Office.

Stinley Scholarship. Fund established to honor Patrick and Mary Stinley. Award is to be made to needy students who are Juniors or Seniors from the Special Studies Program. Recipients are selected by a Financial Aid Office/Special Studies Scholarship Committee.

Eberhardt Memorial Fund. Awards, to honor Melville Alexander Eberhardt, based on academic achieve-

ment, financial need and activities. Selection is made by outside committee upon recommendation of Financial Aid Office. Applications available from Financial Aid Office.

Pacini Memorial Scholarship Fund. Fund established to honor Florence M. Pacini. Awards are based on financial need. Order of selection will be (1) marital status: single parent, child of single parent, married, other (2) Sex: female, male (3) Race: black, other U. S. government designated minority, other.

Betty V. Beaman Endowed Scholarship Fund. Award to be given to an upper class (junior or senior) undergraduate student, based upon financial need and a minimum Quality Point Average of 3.00. Interested students should apply through the Financial Aid Office.

Patrick C. Tassari Endowed Scholarship Fund. Awards are to be given to needy and worthy Duquesne University students. Interested students should apply through the Financial Aid Office.

William J. Kerschgens Endowed Scholarship/Trust Fund. Kerschgens Scholarship Fund was established to assist needy students from Allegheny County. Interested students should apply through the Financial Aid Office.

UNIVERSITY DISCOUNTS

Restrictions

1. University fees, laboratory costs, room and board, and other non-tuition related expenses will be charged at full rate. Discount is one-half tuition only.
2. Only one Duquesne degree may be obtained utilizing the discount and no other form of discount or remission may be received simultaneously.
3. Discount is not extended for studies in the Institute of Formative Spirituality, Law School, Master of Liberal Studies, doctoral degree programs, or any designated special programs with differential rates.

Clergy/Religious Discount. Members of University-recognized Christian and Jewish Religions, who have been ordained or professed, may be eligible to receive a discount of one-half tuition for undergraduate or graduate studies.

Catholic School Lay Teacher Discount. Current full-time teachers in Catholic schools in Pittsburgh, Greensburg, or Altoona-Johnstown Dioceses or teachers from other dioceses, who have completed a minimum of two years teaching at an approved diocesan school, may be eligible to receive a discount of one-half tuition for undergraduate or graduate studies.

Senior Citizen Discount. Men and women who are 60 years of age or older may be eligible to receive a discount of one-half tuition for undergraduate or graduate studies.

RESERVE OFFICER TRAINING CORPS (ROTC) SCHOLARSHIPS

Army ROTC offers a number of four-year scholarships for qualified students on a very competitive basis. These scholarships pay for most of the tuition, fees, required textbooks, and other purely academic expenses as well as providing a \$100 per month subsistence allowance. Interested high school students may apply by writing: Army ROTC, Duquesne University, Pittsburgh, Pennsylvania, 15282. The application period begins in April of the student's junior year and ends in December of their senior year.

For students already enrolled at Duquesne University, three-year and two-year scholarships are available. Individuals need not be participating in the ROTC program to apply. For additional information, contact the Military Science Department at 434-6664.

Part III: Registration and Scholastic Policies

REGISTRATION

Students who attend the Fall Semester, which begins in late August, receive academic advisement and register for classes during the preceding months of April, May, June, and July. Spring Semester students register in the Fall Semester during November.

Orientation programs for new students are conducted by the schools in late spring and summer in conjunction with academic advisement and registration.

A comprehensive invoice that confirms the class schedule of courses for which the student is registered and lists fees, tuition, dormitory charges, deposits, financial aid awards, and balance due is mailed to the student at his or her permanent address a month before classes begin, thus enabling the student or parent to make payment by mail.

Final Registration for students who have neither obtained registration for classes nor concluded financial arrangements is held just before the opening of classes.

The financial obligation for class places reserved by a registered student who does not subsequently attend cannot be canceled unless written notification of the decision not to attend is given to the Registrar before the first class day. Notification received on or after the opening day of classes is subject to the official withdrawal policy. Withdrawal from room and board reservation contracts is to be made in accordance with the provisions of the contract. See *Room and Board—Withdrawal Refund*, page 28 of this catalog.

OFFICIAL REGISTRATION

Only students who are recognized as *officially registered* are bona fide students of Duquesne University. Unless students are officially registered, they are not permitted to attend classes, engage in student affairs, or, generally, have access to the buildings and grounds or use of the University's facilities.

Official registration is the recognition given by the University to persons who have met these conditions:

1. Appropriate authority for admittance to study in a school or department has been given by an authorized officer of the University. The admitting authority for undergraduate students resides in the Director of Admissions.

2. Authorization to continue in the program selected has been given and registration for classes has been accomplished in compliance with all academic requirements and procedures.

3. Arrangements have been made to the satisfaction of the University for payment in full of all financial charges, including fees, tuition, and housing charges, all of which are due and payable in full before the beginning of classes.

CHANGE OF SCHEDULE

Students requiring a change of class schedule, to change class times or to add or to drop a class, are permitted to do so during the Preregistration period, the Final Registration period, and the Late Registration period. Change of class schedule is not permitted after the Latest Date for Change of Schedule as announced in the Academic Calendar (published in the *Schedule of Classes* Booklet).

All schedule changes must be approved by the academic adviser and processed with the Registrar. Schedule change requests processed with the Registrar during the late registration must also have the signatures of the instructors whose classes are being added or dropped.

Students who process change forms late are not entitled to refund for the course credits dropped. Courses dropped after the deadline for making schedule changes are classified as course withdrawals. (See *'Withdrawal from a Course'*, and *'Withdrawal from the University'* mentioned elsewhere in this catalog.)

Except for changes requested by the dean or advisor, a fee of \$5.00 is charged for each change form processed after the close of pre-registration.

CROSS-REGISTRATION

Guidelines

The purpose of cross registration is to provide opportunities for enriched educational programs by permitting students at any of the ten Pittsburgh Council of Higher Education (PCHE) institutions to take courses at any other PCHE institution. Member institutions of PCHE are:

- Carlow College
- Carnegie Mellon University
- Chatham College
- Community College of Allegheny County
- Duquesne University
- LaRoche College
- Pittsburgh Theological Seminary
- Point Park College
- Robert Morris College
- University of Pittsburgh

The opportunity to cross-register is open to each full time student enrolled in a PCHE college or university.

Each college or university accepts registration from the other institutions; however, first priority in registration is given to students of the host college, and not departments or schools in all institutions are able to participate in this program.

In each case of student cross-registration, the approval of the dean or designated individual from the home college or university must be obtained prior to registration.

The student's advisor or dean is responsible for assuring the student's eligibility for the course in which s/he intends to enroll.

Full credit and grade will be transferred; the academic regulations of the host institution will prevail.

The academic honesty code and other rules of conduct of the institution providing the instruction apply with respect to its courses and behavior on its campus. That institution also determines whether its rules have or have not been violated. The student's own institution will impose such penalties as it considers proper when violations are reported to it.

Cross registrants do not thereby acquire the status of students in the institutions in which they are receiving instruction (e.g., for purposes of participation in student activities, insurance programs, etc.). They do receive library privileges at the host institution and may purchase course texts at the host bookstore.

Each qualified student normally may enroll in no more than one course off campus in any one term or semester under this program.

Duquesne University students who are participating in this program are charged tuition and university fees in accordance with the current rates of Duquesne University; however students are responsible for paying any additional course or laboratory fees to the host institution.

This cross registration program does not apply to the Summer Sessions at any of the institutions including the Spring Term at the University of Pittsburgh. However, taking courses at other institutions during those terms is facilitated by "temporary transfer student" procedures separately agreed to by the PCHE colleges and universities.

Students are encouraged to submit cross registration forms during preregistration in order to provide adequate time to receive proper notification of the approval or disapproval.

Procedures

Pick up a cross registration form at your advisor's office or the Registrar's Office.

Select the courses you wish to enroll in from the schedule of classes of the respective host college. These schedules are in the Registrar's Offices of all PCHE schools.

Submit the completed cross registration form to your academic advisor for approval.

Bring all copies to the Registrar's Office.

The host registrar will notify you by mail whether your cross registration has been approved or not.

LATE REGISTRATION

With approval of the appropriate dean and upon payment of the penalty fee, late registration may be permitted for a serious reason; however, no student may be registered and begin attending classes later than the Latest Date for Registration and Change of Schedule as announced in the Academic Calendar (published in the *Schedule of Classes* booklet).

RECORDS AND REPORTS SEMESTER GRADE REPORTS

Every registered student who is free of financial obligations to the University is sent a report of grades to the permanent address on record soon after the close of each semester.

TRANSCRIPTS

Each student who is free of financial obligations to the University is sent a summary transcript of his or her complete academic record at the close of each academic year. Students should carefully examine their records for accuracy and immediately report errors in writing to the Registrar.

To obtain additional copies of their academic records students must write to the Registrar for transcripts for themselves or for mailing to the other institutions and agencies. All *official* transcripts issued by the Office of the Registrar bear the signature of the Registrar and the embossed seal of the Office of the Registrar. Whenever an *official* transcript is released directly to the student it will also bear the stamped designation, *Issued to Student*.

No transcript will be issued unless all financial obligations owed by the student to the University have been fulfilled. A fee of \$3.00 is charged for the issuance of each transcript and 24-hour processing time is required for pick-up service from the Registrar's Office.

CONFIDENTIALITY OF STUDENT RECORDS

The University regards the student's personal information and academic record as a matter of confidence between the student and the University. The contents of either may be revealed only in accordance with the Family Educational Rights and Privacy Act of 1974 (Public Law 93-380, Section 438, as amended).

In order that parents of students may receive from University officials information concerning the college attendance academic record of their child, it is required by the Family Educational Rights and Privacy Act of 1974 (FERPA) (Public Law 93-380, as amended, section 99, 31 (8) that either the parents must prove financial dependence of their child upon

them according to the dependency test as defined in section 152 of the Internal Revenue Code of 1954, or the child must grant a waiver of rights given by FERPA.

Students wishing to waive the requirement of FERPA relating to the release of academic information to parents must complete the waiver obtainable at the office of the academic adviser.

Academic Policies

POLICIES

ACADEMIC ADVISEMENT

Every student attending the University is assigned or selects an academic advisor. It is the student's responsibility to ascertain the advisor's name.

The student should consult with the academic advisor about any questions of an academic nature. No student may register without the academic advisor's approval and signature.

Advising for freshman and sophomore students is handled through the Advisement and Counseling Center. Juniors and seniors are advised through their respective schools.

ACADEMIC SUPERVISOR OF INTERCOLLEGIATE ATHLETICS

The academic progress of student athletes engaged in intercollegiate competition is monitored by the ASIA. The ASIA office also provides academic support services for student-athletes.

AUDITING COURSES

Regularly enrolled Duquesne students are permitted to audit courses. In addition, non-degree students from the general community who would like to audit courses for personal enrichment and who are not matriculated nor pursuing a degree program are also eligible to audit. Regular students should consult their academic advisor for details on auditing. Non-degree students should contact Duquesne's Division of Continuing Education to complete a brief application form. Admission is granted on a space available basis by consulting the Office of the Registrar and the individual schools. Fees for auditing are uniform for all students.

Registration in a course as an auditor must be declared at registration and is irrevocable after the last date for change of schedule each semester, as indicated in the Academic Calendar (published in the *Schedule of Classes* booklet). Records will show "Audit" in the grade space on the transcript of a regularly matriculated student. A "Certificate of Attendance" for non-degree students will be awarded

by the Division of Continuing Education. Audited courses are not eligible to be converted to matriculated credits. Courses audited may not be challenged later or completed via CLEP or other advanced standing tests.

Courses eligible for auditing are determined by the individual colleges and schools of the University. A partial list of school policies follows, but students are advised to consult with the Offices of the Deans for the most current listings: 1) No courses in the School of Law are available for audits; 2) No clinical courses in the School of Nursing and pharmacy can be audited; 3) In the College of Liberal Arts and Sciences, courses in humanities and social sciences can be audited, but communications and science laboratory courses may not be audited.

Students enrolling for audit may attend lectures, complete course readings and, at the discretion of the professor in charge of the course, may participate in classroom discussion and examinations.

CANCELLATION OF COURSES

The University makes every reasonable effort to offer courses as announced in the *Schedule of Classes* booklet and the summer session tabloid. It reserves the right, however, to make changes or cancel courses in the academic schedule because of insufficient enrollment or for any other equally valid reason.

CLASS ATTENDANCE

Regular class attendance is normally essential for maximum educational advantage and is strongly encouraged. The responsibility for all course material rests wholly with the student. Schools may require attendance at every class.

It is the prerogative of each school to establish policy for attendance at classes, laboratories, tests, examinations, deadlines for reports, and specific school requirements. It is the instructor's responsibility to make the school's policy known at the first class session as it pertains to the course and school.

The student who is unable to attend class because of serious illness, hospitalization, a serious accident or other extenuating circumstance is responsible for notifying the office of his academic dean. He should supply the necessary written verification as soon as possible.

The student must submit the work assigned and take the examination in the course at the specified time. If the work is not submitted or an examination is not taken at the scheduled time, the policy is to assign a zero for that part of the course. An accumulation of zero grades could result in a final grade of 'F'. If a student has for significant reasons missed a part of the course or an examination, the grade may be submitted as an 'I'. If the temporary 'I' grade is to be replaced by a passing grade, the work must be completed by the time stated in the

Academic Calendar (published in the *Schedule of Classes* Booklet). Failure on the part of the student to remove the temporary grade results in conversion of that grade to an 'F' recorded on the transcript.

CLASSIFICATION OF STUDENTS

Freshman: less than 30 credits completed.

Sophomore: 30 to 59 credits completed.

Junior: 60 to 89 credits completed.

Senior: 90 or more credits completed.

1. *Full-time Student.* A student with an academic schedule of at least 12 credits is considered a full-time student. With this status a student is entitled to the benefits of various activities. A student may not change status during the semester without the permission of the academic advisor and the Dean of the student's school.

2. *Part-time Student.* Anyone who carries under 12 credits is regarded as a part-time student.

3. *Post-graduate Student.* A person who has completed a baccalaureate degree and is seeking additional undergraduate credits.

COURSE EXAMINATIONS

Unit examinations are given on the dates announced by the instructor at the beginning of each semester. Grades for these are obtained from the instructor.

Final examinations are given at the end of each semester and summer session. No student is excused from taking the final examination.

CREDIT BY EXAMINATION

Examinations for recognition of proficiency in a subject, or for course credit, as authorized by the College or a particular School of the University, are available to currently enrolled students who by previous experience or exposure have acquired mastery of the knowledge in certain courses. An application fee of \$30.00 is charged for each course credit; application forms may be obtained from the Office of the Registrar.

Since policies vary among the Schools, students who feel they may qualify for credit by examination should consult the Dean of the School in which they are enrolled for specific information about courses open to this examination procedure.

UNDERGRADUATE GRADING SYSTEM

The following is the officially recognized method of grading course work and rating academic performance of undergraduate students at the University, effective for the 1988 Spring Semester:

Grade Description

- A Superior
- A - Excellent
- B + Very Good
- B Good

- B - Above Average
- C + Satisfactory
- C Average (Minimum general average for graduation)
- D Lowest passing scale grade
- F Failure (Course must be repeated for credit.)
- I Incomplete (A temporary grade given by an instructor when neither a passing nor failing grade can be determined because of incomplete course work. Unless a cogent explanation of extenuating circumstances, acceptable to the instructor, is presented and the missed examination or required assignment is made up by the date specified in the Academic Calendar, the I becomes a permanent F grade.)
- N Not Passing (Used to indicate Failure in a P graded course. Is independent of the Quality Point System. Course must be repeated for credit.)
- P Pass (Used in some courses where scaled grading is inappropriate. Indicates satisfactory completion of course work with credits earned but without quality points and is independent of the Quality Point System.)
- S Satisfactory (Used in pass/fail elected courses and is independent of the Quality Point System.)
- U Unsatisfactory—Failure (Used in pass/fail elected courses and is independent of the Quality Point System; course must be repeated for credit.)
- W Official Withdrawal (Used on a student's permanent record to indicate termination of attendance in courses under conditions of official withdrawal. (See page 28 and *Schedule of Classes* booklet for Withdrawal from a Course and Withdrawal from the University.)

PLUS/MINUS GRADING OPTION

The Plus/Minus Grading System is the official grading system of the University. Faculty have the option of using it but must inform the students in the course.

Instructors are to announce at the first class meeting whether or not plus and minus grade values will be used in grading course work and rating academic performance of the students in their class.

A class inaugurated in plus/minus grading may not revert to non plus/minus grading, and *vice versa*.

The grading system for graduate students is published in the catalog of the particular graduate school.

COMPUTATION OF THE QUALITY POINT AVERAGE

Quality Point Average is the ratio expressed to the decimal thousands of the sum of course credits for which the grades of A, A -, B +, B, B -, C +, C, D, and F were received to the sum of quality points earned. The Quality Point value of these grades are:

Grade	Quality Points Per Credit
A	=4.0
A-	=3.7
B+	=3.3
B	=3.0
B-	=2.7
C+	=2.3
C	=2.0
D	=1.0
F	=0.0

Grades S, P, U, N, I, and W are independent of the Quality Point System. Courses credits graded F, U, N, I, and W do not earn credit, and if required for graduation, must be repeated and passed.

REPEATING COURSES AND COURSE RETROGRADATION

Students ordinarily are permitted to repeat courses in which D, and F grades were received. The request for permission to repeat a course is to be submitted in letter form to the academic advisor. An authorized request to repeat a course form must be obtained from the advisor before registering in the repeat course. All grades are retained on the permanent academic record. The result of the final attempt in a repeated course is, however, the student's status in the course with regard to attempted credits, earned credits, and the completion of requirements.

Retrogradation, a corollary of the repeat credit rule under which a student may earn credit once only for a course, prescribes that a student may not move backward from an advanced course to a lower level course and receive credit for both. Any doubtful situation must be decided by the department chairperson or dean involved.

PASS/FAIL ELECTIVES

One course a semester, elected by a junior or senior and approved by the academic advisor as providing an opportunity to expand and enrich the student's experience, may be taken on a pass/fail (S-U) basis. If passed, the credits will count for graduation, but neither grade nor credits will be calculated in the quality point average.

Once a course has been identified as a pass/fail elective, the course must be completed as such, and the grade submitted must be an S or a U. No required course may be taken on this elective pass/fail basis.

The decision to elect the pass/fail option must be made no later than the close of the period provided for making schedule changes. An authorized pass/fail election declaration form must be obtained from the advisor.

STUDENT STANDING

Progress toward a degree is measured by the cumulative quality point average. The scholastic records of students who fail to meet the minimum requirements as established by the faculty of each college or school will be submitted to the College or School Committee on Student Standing for review and appropriate action. Normally, academic records will be reviewed annually at the conclusion of each academic year.

All students in the University are academically dismissed if they fail three courses in one semester. Students can be readmitted by the student standing committee of the college or school to which the student is returning. If a student transfers to another school within the University, the student can be admitted only by the Dean of that school.

For students who have attempted 15-30 credits, or more than 30 credits in one year, the guidelines are:

Academic Warning: 1.75 to 1.99 QPA (Letter of warning may be sent by appropriate Dean)

Probation: 1.50 to 1.74 QPA (Subject to the jurisdiction of the appropriate Committee on Student Standing and may be required to modify or restrict academic program)

Dismissal: Less than 1.50 QPA (Readmission may be permitted on recommendation of the appropriate Committee on Student Standing)

For the students who have attempted 31-60 credits or who have attempted up to 61 credits within four semesters, these guidelines prevail:

Academic Warnings: 1.85 to 1.99 QPA (Letter or warning may be sent by appropriate Dean)

Probation: 1.75 to 1.84 QPA (Subject to the jurisdiction of the appropriate Committee on Student Standing and may be required to modify or restrict academic program)

Dismissal: Less than 1.75 QPA (Readmission may be permitted on recommendation of the appropriate Committee on Student Standing)

Students who have attempted 61 or more credits and who have a QPA of between 1.85 and 1.99 may continue on probation for one semester. However, students who have earned 90 credits or more are subject to dismissal unless they have a QPA of 2.0 or better. Students who accumulated three F grades in one semester are subject to dismissal. Appeals of academic dismissal must be directed to the appropriate College or School Committee on Student

Standing. Students subject to the jurisdiction of the appropriate Committee on Student Standing in accordance with the established guidelines who are permitted to re-enroll on a full-time basis but continue participation in noncurricular and extra-curricular activities shall be without appeal if they are subsequently dismissed from the University for poor scholarship.

ACADEMIC ADVISEMENT FOR STUDENT ATHLETES

The policy of the Council of Academic Deans on Student Athletes vis-a-vis academic standards reads as follows:

a) "To participate in the formal athletic programs at the University, a student must be currently enrolled as a full-time student. Full-time status is defined by University catalog as enrollment of 12 credits minimum per semester. Such a program would allow a student to graduate within five years.

b) A student athlete must be making satisfactory academic progress. This means that a student must have successfully completed 24 credits during the previous academic year. This would allow a student the fall, spring, and summer semesters in which to earn these 24 credits. In addition the student athlete must satisfy the student standing policy as outlined in the Student Handbook and University catalogs.

c) Student-athletes must maintain a 2.0 cumulative QPA at all times in order to be academically eligible to compete in inter-collegiate competition. QPA's for student athletes are calculated at the end of each semester."

DEAN'S LIST

To achieve distinction of being named to the Dean's List, a student must have a record for a semester that shows completion of a full-time schedule, a quality point average of at least 3.25, and no grade lower than a C. The full-time schedule must include at least 12 credits exclusive of pass/fail credits.

GRADUATE COURSES FOR UNDERGRADUATE CREDIT

Qualified seniors may be permitted to register in certain graduate courses at the 500 level for undergraduate credit on the recommendation of the advisor and with the approval of the dean of the graduate school involved. All 500 courses are described in the graduate school catalogs.

GRADUATION REQUIREMENTS

The candidate for a University degree must be a person of good moral character who has satisfactorily completed all academic requirements for the degree program and in addition has the recommendation of the appropriate Academic Dean, filed the Appli-

cation for the University Degree with the Office of the Registrar on or before the latest date to apply for graduation as announced in the Academic Calendar, and paid all indebtedness to the University.

It is the student's responsibility to determine that courses taken in each semester are sequentially correct and necessary for the degree program.

The student, in consultation with an advisor, must periodically review progress toward graduation, and resolve any question about fulfillment of graduation requirements.

Each school and each department sets forth in this catalog requirements for graduation which the student is expected to know, as well as the above noted general requirements, and the following:

1. The bachelor's degree requires a minimum of 120 semester hours of course credits in all except Pharmacy which requires 163 credits and Nursing which requires 124 credits.

2. All bachelor's degrees require an overall minimum quality point average of 2.0, which is a C grade average in a 4.0 system. (Students should further determine the need for minimum QPA requirements in their major, science course, etc.)

3. The final year's work (a minimum of 30 semester hours of credit) must be completed in residence at the University.

4. Not less than three credits (or one course) in theology are required for all undergraduate Catholic students in every program at the University.

5. Students on academic probation may be candidates for graduation only with permission of the Committee on Student Standing of their school.

The candidate who has satisfied graduation requirements by a Challenge Examination (credit by examination), within the last 30 semester hours of study for the degree, will fulfill the residence requirement provided a minimum of 30 semester hours of credit has been earned in course work at the University in the final year's study.

HONORS

Degrees are awarded with special mention *cum laude*, *magna cum laude*, or *summa cum laude* to students who have completed the regular course with unusual distinction and who have completed a minimum of 60 credits in residence. Honors are based on these standards:

Cum Laude—Quality Point

Average 3.50 to 3.74
Magna Cum Laude—Quality Point

Average 3.75 and above
Summa Cum Laude—Upon recommendation of the Faculty and a 3.90 QPA, the Magna Cum Laude citation may be raised to Summa Cum Laude.

UNIT OF CREDIT

The unit of credit is the semester hour; i.e., one credit equals one semester hour. One semester hour of credit is granted for the successful completion of

one hour a week of lecture or recitation, or at least two hours a week of laboratory work for one semester of 15 weeks.

TRANSFER WITHIN THE UNIVERSITY

It would be to the student's advantage to discuss the proposed transfer with an academic advisor of the new school no later than two weeks prior to preregistration. The advisor will then be responsible to effect the change.

WITHDRAWAL FROM A COURSE

First semester freshmen may withdraw from courses with the approval of their advisor up to the period of final examinations and receive a grade of "W" by processing the proper form.

If a student, other than a first semester freshman, wishes to withdraw from a course, he/she may do so with the approval of an academic advisor and by processing the proper form up to the date announced in the Academic Calendar for withdrawal with a "W" grade.

If a student wishes to withdraw from a course after the date announced in the Academic Calendar, the student must seek approval of the Committee on Student Standing of the student's School. The student will be notified of the Committee's decision. If approval is granted, the student then initiates the appropriate form through the advisor.

A student who is not granted approval of the request and withdraws from the course unofficially will receive a "F" grade for the course.



Part IV: Tuition and Fees

Tuition and Fees

The University reserves the right to change tuition and fee charges if exigencies require such action. The figures shown apply to the 1991-92 term only, unless otherwise indicated.

TUITION

Undergraduate Tuition	for each semester hour credit	\$305.00
Graduate Tuition	for each semester hour credit	\$322.00
Auditors pay the same as students taking courses for credits.		

FEES

Application (non-refundable).....	\$ 20		
Matriculation Deposit (non-refundable)	100		
Residence Hall Pre-Payment (non-refundable)	150		
Change of Schedule	for processing each form	5	
Credit by Examination	for each semester hour for recognition of proficiency of course credit (See policy in Section VI, page 144)	30	
Orientation (New Students).....	30		
Late Registration	25		
Removal of I Grade	5		
Registration Correction Fee	15		
Continuing Registration Fee	50		
*Undergraduate Business and Administration Student			
when carrying	12 or more credits	5	
	Less than 12 credits	3	
*Undergraduate Music Student when carrying			
	12 or more credits	110	
*School of Pharmacy Undergraduate Fee	200		
*Undergraduate Pharmacy Student Activities (for Third, Fourth, and Fifth Year Students)			35
*University Fee	\$20 per credit		

*Charged on each semester registration.

LABORATORY FEES

All amounts are for one semester; where applicable, the yearly charge is double. In addition to the laboratory fee, some programs also require a breakage charge of \$15.00 a semester; this is proportionately refundable, depending upon the losses incurred.

Laboratory fees apply to the 1991-1992 academic year.

Biology (each laboratory).....	\$ 60
Chemistry (each laboratory).....	70
Education 232, 315, 317.....	10
English 439, 379.....	10
*English Language Placement Testing (ESL).....	30
Music-Applied: 2 or 3 credits.....	330
Music-Applied: 1 credit.....	165
Music-Class Piano.....	60
Music-Class Methods.....	60
Music-Ensemble.....	60
Music-Seminar.....	60
Pharmacy 301, 302, 306, 309, 317, 319.....	40
Physics (each laboratory).....	60
Speech 101, 204, 206, 208, 220, 251, 263, 264, 302, 311, 351.....	10
Graduate Biology With Laboratory.....	60
Graduate Chemistry 520, 561.....	60
Graduate Modern Languages 051 & 052.....	200
Graduate Psychology 571.....	15
Graduate Pharmacy (each laboratory) 501, 502, 521, 522, 539, 540, 541, 542, 565, 671.....	30
Graduate Education 512, 692, 693.....	20
Graduate Education 515, 516, 517, 518.....	10

*English Language Placement Testing (ESL) fee is a one-time fee.

**Laboratory Breakage Fee.....	15
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One breakage card per semester will cover laboratory breakage in Chemistry.

SUMMER AND SPECIAL SESSION TUITION AND FEE CHARGES

Undergraduate Tuition.....	for each semester hour credit.....	\$305.00
Graduate Tuition.....	for each semester hour credit.....	\$322.00
University Fee.....		\$20 per credit

GRADUATION FEES

Bachelor Degree.....	\$30.00
Master Degree.....	40.00
Doctor of Pharmacy Degree.....	40.00
Juris Doctor Degree.....	85.00
Doctor of Philosophy Degree.....	55.00
Thesis Binding Fee—Doctoral Dissertation.....	93.50
Thesis Binding Fee—Master Thesis.....	83.50

WITHDRAWAL AND TERMINATION OF ATTENDANCE

Upon officially withdrawing from the University, a student receives remission of part of the tuition charged for the semester or session in accordance with the Tuition Remission Schedule. The amount of the remission is added to payments, and a refund is made upon request where a credit balance is created on the student's total account.

The Effective Date of Withdrawal for determining the percent of remission is that on which the appropriate Academic Dean was notified by letter of the student's decision to terminate attendance and requested official withdrawal. It is also the recorded date of the student's separation from the University and regarded as the last day of attendance. A student is considered enrolled and "in attendance" until he or she acts to terminate attendance in conformity with this policy even though absences from classes were observed and recorded before the Effective Date of Withdrawal.

When a student's attendance is involuntarily terminated in a semester because of personal disability arising from injury or illness, any remission of tuition beyond the limits prescribed by the withdrawal refund policy is subject first to the approval of the Academic Dean, then the Vice President for Academic Affairs, and finally, the Vice President for Business and Management.

TUITION REMISSION SCHEDULE

This schedule applies to tuition only; it does not apply to other charges, such as the University Fee, course fee, and laboratory fees, nor to the reduction of credits resulting from course withdrawals made after the Change of Schedule period.

<i>Within the Semester</i>	<i>Percent of Remission</i>
First Week	80
Second Week	80
Third Week	40
Fourth Week	20
After Fourth Week	None

Within the Summer Session—Based on a Six Week Session Standard

First Week	60
Second Week	20
After Second Week	None

ROOM AND BOARD

The request for on-campus residence is made on the same form used for application for admission to the University. After the student has completed the admission procedure and has paid the matriculation deposit, the residency request is referred automatically to the Assistant Director of Residence Life. The request is processed and necessary application forms are forwarded to the student.

The University requires that a prepayment of \$150, which is applicable to the following semester's room and board account, accompany all applications for room reservations or renewals. This prepayment is non-refundable.

Reservations are made on a semester basis — August to December, January to May. Rooms may be occupied no earlier than noon of the day preceding the beginning of the orientation or registration periods.

Room assignments are made on a first-come, first-serve basis. Therefore, it is extremely important for the student to return his/her housing application immediately upon receipt of it. Over-crowded conditions have occurred in the past and students have been temporarily assigned three to a room or in lounges. Therefore, students returning their applications after all rooms have been assigned will be housed in temporary housing, be placed on a waiting list, or not assigned a space in the residence area.

All students occupying rooms in the University residence halls are required to take their meals at the Resident Dining Hall. Charges are for 20 meals a week, with meals served commencing with the evening meal of the day before the first day of classes. A commuter meal plan and a 14-meal plan for sophomores, juniors and seniors are also available.

Residence Halls are closed during vacation (Thanksgiving, Christmas and Easter) periods.

All resident students must present evidence of health and accident insurance coverage; such coverage is available through the University.

The University reserves the right to modify these charges if exigencies require such action.

Regular Session—Room and Board (20 meals a week; includes cleaning public damage, health services fees, residence council fee, and telephone maintenance fee.)

Single for each semester	\$2728.50
Double for each semester	\$2251.75

Summer Sessions—Room and Board*

6 Weeks	\$1052.10 (Single Room and Board)
	\$858.06 (Double Room and Board)
8 Weeks	\$1402.80 (Single Room and Board)
	\$1144.08 (Double Room and Board)

ROOM AND BOARD—WITHDRAWAL AND REFUND

A resident student must notify the Assistant Director of Residence Life in advance of the planned withdrawal. No refund of room charges will be made where withdrawal occurs after the opening classes. In the event of withdrawal, board will be refunded at the rate of 75 per cent of the balance remaining on the student's meal plan, up until mid-semester. After the mid-semester point, no refund will be made. No reduction of charges nor refund of payments to which a student may have been

otherwise entitled will be made if withdrawal is not in accordance with the official withdrawal procedure.

No student is permitted to remain in the residence halls after academic withdrawal from the University has been completed.

**Those desiring residency for the Summer Session should make reservations with the Assistant Director of Residence Life three weeks prior to opening date of your session. A non-refundable deposit of \$20 must accompany each application. After occupancy, the deposit is applied toward the room and board expenses. This deposit is not refunded if the room is not occupied. Rates shown are for 1991 summer session only. For day rates and three, four and five week rates, contact the Office of Residence Life. Rates include telephone line fee.*

FINANCIAL MATTERS

All charges for tuition, fees, room and board, less financial assistance authorized by the Financial Aid Office, are payable at registration. For your convenience, MasterCard and VISA can be utilized to pay tuition and fees.

BILLING PROBLEMS

Take the billing statement to the office indicated for an explanation or correction concerning these billing matters.

- a) Balance Forward, Credits, Payments Deposits—*Accounts Receivable Office.*
- b) Financial Aid Awards, Federal Loans, Guaranty Loans, and Employer Billing—*Office of the Director of Financial Aid.*
- c) Student Finance Program, (Deferred Payment Plan)—*Accounts Receivable Office.*
- d) Housing Reservations and Housing Charges—*Office of the Assistant Dean of Residence Life.*

STUDENT FINANCING PROGRAM:

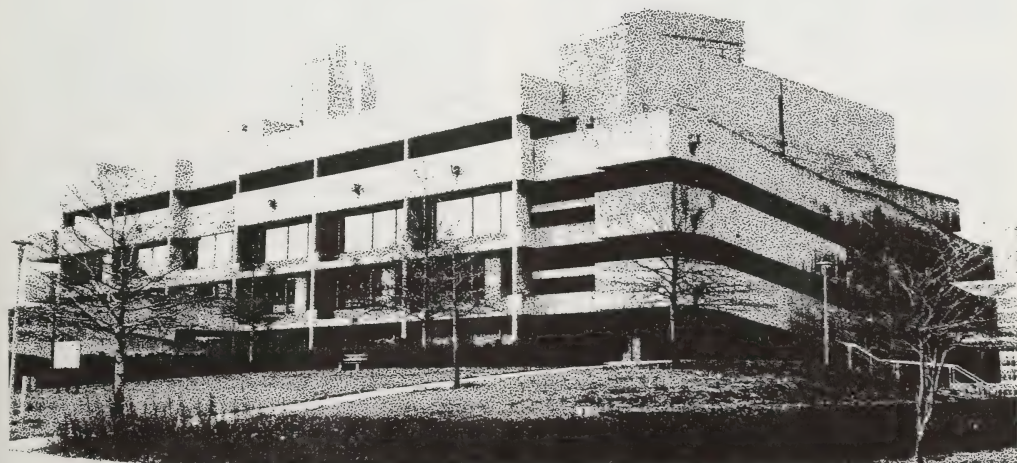
(All prior balances must be paid in full before the student is eligible for this plan.) Duquesne University students desiring payment of their tuition and other charges for the semester by installment, contact in person the Student Finance Section at Final Registration. The Student Financing program provides financing for up to 50% of the current semester charges less financial aid authorized and other payments, to be repaid to the University in two equal installments. Interest is charged at the rate of $2\frac{1}{3}$ of 1% per month. A delinquency charge on each monthly installment in default for a period of ten days or more will be charged in an amount equal to 5% of such installment or \$5.00, whichever is less, except that a minimum charge of \$1.00 may be made.

CASHING CHECKS

A student may cash a check up to a maximum of \$50 at the Cashier's Office on the Ground Floor of the Administration Building between 9:00 A.M. and 4:00 P.M., Monday through Friday, except during registration, with a validated ID Card for the current semester.

BAD CHECKS

It is the policy of the University to charge bad checks to the student who cashes them regardless of the maker. A \$3.00 service charge will be assessed on checks that are returned from a bank for lack of funds. Payment of registration or room and board with an NSF check will result in cancellation of the registration.



Part V: Student Life, Programs, Services and Organizations

A. DIVISION OF STUDENT LIFE MISSION

The mission of the Division of Student Life is to establish and maintain a total living, learning and developmental environment that will enhance students' growth for the individual self-actualization and positive involvement in the world community.

PHILOSOPHY

Consistent with the educational philosophy of the University and the above stated mission, the Student Life Division provides the student with opportunities to participate in a variety of experiences with fellow students, faculty members and administrators. The Student Life Staff encourages students to initiate new programs, implement change and participate in the essential processes of University governance on many levels.

ORGANIZATION

The Vice president for Student Life coordinates the Departments of Athletics, Student Development Office, Duquesne Union, Residence Life, Commuter Affairs, Health Service, Judicial Affairs and Programs and Activities. These Departments are briefly described below. Additional information may be obtained directly from each Department and through the *Student Handbook and Code of Student Rights, Responsibilities and Conduct*.

ATHLETICS

Duquesne University is a member of the National Collegiate Athletic Association (Division I) and the Atlantic 10 Conference. All rules of these two organizations, including those pertaining to a student's eligibility for a varsity team, are followed. Duquesne University believes in and promotes the concept of the *student athlete*. Athletic grants-in-aid are available for all varsity sports with the exception of football.

The Athletic Department fields men's varsity teams in baseball, basketball, cross-country, football (Division III), swimming, tennis; women's varsity teams in basketball, cross-country, swimming, tennis, track and volleyball; coed varsity teams in golf and rifle; and club teams in bowling, hockey, and crew.

Duquesne sponsors a very active intramural program in such fields as tennis, touch football, volleyball, street hockey, basketball, softball, indoor/outdoor soccer, coed wiffle ball, and aerobics.

OFFICE OF COMMUTER AFFAIRS

Whether living with relatives or commuting from their own apartment, the Office of Commuter Affairs offers valuable services and programs for commuter students. If commuter students have a question, suggestion, complaint, concern or simply need information, check with this Office. Assistance is available in many areas, including:

Parking and Transportation: The Office of Commuter Affairs can assist students with University parking information and in forming carpools. Pat bus schedules are available in the Office. Bus passes are sold in the Information Center of the Union.

Off-Campus Housing: Up-to-date listings are maintained of rooms, apartments, houses and "roommate needed" situations. Area maps, apartment directories and housing search assistance are also available.

Commuter Message Center: If someone needs to get a message to a student on campus, they may call 434-6660. The message is posted outside the Office for the student to pick up.

Adult Learner Services: Services are provided for adult learners including newsletters, family programming, assistance with adult tutoring and a monthly Brown Bag Enrichment Series. Duquesne Adult Learners Organization (DALO) is an adult organization specifically designed for adult learners. Its officers can be contacted through the Office.

Commuter Assistance Program: This program is a support network of upperclassmen students who serve as advisors and provide resources for new commuters. C.A.'s plan activities, provide information and supply encouragement. Students should be contacted by their C.A. prior to entering their first semester.

Other Services include: Suggestions/Complaints in Action, Commuter Update, Student Handbook distribution to commuter students and distribution of commuter I.D. cards (after validation by the I.D. center).

The Office is located in the Duquesne Union, Room 315 and is open throughout the year to serve students. Office hours are extended during the Fall and Spring semesters when the Office is open Monday through Thursday, 8:30 a.m. - 6:00 p.m. and Friday until 4:30 p.m. Additional evening and weekend hours are available by appointment. For further information call 434-6660.

STUDENT DEVELOPMENT OFFICE

This office is directly responsible for implementing several programs and services which provide individual students and groups with opportunities or personal, intellectual and social growth. Chief among these programs and services are the University Judicial System, Orientation, Greek Affairs, Special Scholarships and Awards, Disabled Student Services, Presidential Ambassadors, National Honor Societies and Leadership Development.

The University Judicial Board plays an important role in developing responsible student conduct, serving to protect the rights and freedoms of all students while insuring that these rights and freedoms are not misused within the context of students' responsibilities to the University. The Board, comprised of administrators, faculty, students and a student chairperson, minimizes legal technicalities and instead focuses on the developmental process.

DUQUESNE UNION

The Duquesne Union is more than a unique building. It is a unique partnership of professional staff, faculty and students working together to provide the experience necessary to develop mature, effective members of society. The Union staff provides advice and assistance for all phases of campus programming and establishes goals for, as well as, producing and presenting, a balanced series of cultural, educational, recreational and social programs. With the goal of community, all aspects of the Union are open to the entire campus. It is not the "Student" Union but the Duquesne Union.

The Union staff works most closely with the Union Program Board, which is the student organization exercising primary coordination and implementation of University-wide programming through a series of special committees. The UPB offers its members the opportunity to develop effective skills in leadership, communication, organization and group process.

Facilities within the Union include administrative and student organization offices, meeting rooms, information center, games area, bookstore, cafeteria, video arcade, Ballroom, Allegro snackbar and television lounge.

RESIDENCE LIFE

The Office of Residence Life is committed to creating an environment in each of the four (4) Living Learning Centers in which the student may grow and develop as a total person. Its philosophy and programs are based on the belief that the Living Learning Center experience is an important part of the total University education. Therefore it is the purpose of the Office of Residence Life to facilitate the personal and academic growth of the resident student. To this end, the professional and resident

assistant staff will provide the means to foster such development.

All freshmen students, except those residing with their parents or relatives, are required to live in one of Duquesne's Living Learning Centers. All students living on campus are further required to take their meals at the Residence Cafeteria. Housing Agreement terms are effective for the entire academic year, with room and board rates being determined on an annual basis. Additional information regarding programs, policies and regulations for the Living Learning Centers is included in the Residence Life Handbook.

UNIVERSITY ACADEMIC ADVISEMENT AND REFERRAL CENTER

The U.A.A.R.C., located on the ground level of the Administration Building, provides academic advisement services to all entering freshmen and undeclared majors in all schools except Pharmacy. In addition, the Center advises new transfer students in the College of Liberal Arts and Sciences and the School of Music. Each entering student is assigned an academic advisor who assists them in: the exploration of their academic goals; their academic adjustment; and in choosing courses and programs related to their goals. Advisors are student advocates who help their students to form and clarify their values, interests, abilities, and goals. They also assist students in decision-making skills, implementing choices and problem solving. The Advisement and Referral Center maintains a close relationship with support services on campus in order that students may be provided with an holistic approach to their educational, professional and life goals.

CAREER PLANNING AND PLACEMENT

Students and graduates of Duquesne University have available to them the full services and programs of the Career Planning and Placement Center. Persons with uncertain or changing vocational goals may seek career planning through personal contact with the professional staff and use of the career resources. Early use of this service is encouraged.

The individual with well-defined career goals may seek employment advice including resume preparation, job application and interview techniques, job referrals and credentials. The graduating student may also be interested in campus interviews with visiting employers.

Undergraduate/graduate students may earn academic credit for approved preprofessional work under the University's Internship Program which is administered by the Career Planning and Placement Center.

The part-time and summer employment program is important to students in financing their education and to those seeking practical experience to augment college training. Part-time and summer jobs

in the community are also available. Students interested in campus employment should contact the Human Resources Department.

COUNSELING AND TESTING CENTER

The Counseling and Testing Center provides academic, personal and vocational counseling.

The student experiencing academic difficulties may request evaluation of math, reading and study skills. Professional assistance is available in dealing with test anxiety or stress management on an individual basis or in group format.

Personal counseling for aid in adjustment to college life (homesickness, roommates, personal relations), anxiety, depression, eating problems, drug and alcohol abuse and sexual victimization. Short and long-term confidential counseling are provided with psychiatric consultation and referral as warranted. Workshops and support groups are held throughout the academic year for Time and Stress Management, Test Anxiety, College Survival Skills, Eating Disorders, Adult Children of Alcoholics, Sexual Victimization, and others upon request.

Testing and counseling are provided for choosing a major, choosing an occupation, investigating career aptitudes, investigating academic strengths or difficulties. A counselor assists the student seeking vocational guidance in systematically exploring and discovering his/her interests and abilities through testing and individual counseling. Students learn how their interests and abilities relate to the world of work and education. They receive help in clarifying occupational goals and in choosing an academic program suitable to those goals.

Information about the applications for national qualification examinations (CLEP, MAT, GRE, NTE, LSAT, GMAT, SAT, etc.) are also available.

The Counseling and Testing Center staff provides 24-hour emergency psychological services. In addition, the Student Assistance Program and the Academic Intervention Program provide special assistance for students who are having atypical problems.

HEALTH SERVICE

Medical/Nursing

The Health Service provides for the evaluation and treatment of illness and injury.

- Allergy injections are given when ordered by a physician. Students must provide serum and instructions.
- Starter doses of medication are given when in stock. However, students must pay to have prescriptions filled off campus.
- Health counseling and referrals to medical, social, welfare agencies as needed.
- Routine screening physicals are provided for

driver's license, teacher certification, premarital, pre-employment. Nominal fee.

- Routine gynecological assessment and treatment.

Health Education

The Health Service provides numerous quality health education programs for the University community. These programs promote good health, safety and the early detection of illness, thereby preventing consequences of disease, injury and accidents.

Staff

The medical/nursing professional staff consists of all Registered Nurses, Certified Nurse Practitioners and Board Certified Physicians affiliated with Mercy Hospital.

In-Hospital Care

- Students are transported to nearby medical centers when in-patient care is needed.

Insurance

- It is strongly recommended that each student obtain some form of health insurance. The University provides a Student Health Insurance Plan designed to meet the needs of students and is priced lower than individual health insurance policies. Inquiries about health insurance should be directed to the Risk Manager (434-6677).

Location

The Health Service is located on the second floor, Towers Living Learning Center 434-1650/1652.

Eligibility

All resident and full-time undergraduate students: Prepaid

All Graduate and part-time students: First aid and referral services without charge. All the benefits of on-going primary care such as physician visits, allergy injections, starter doses of medicines; by electing to join the Health Service program. A nominal fee of \$25 per semester is required.

All health records are confidential and will not be released without the student's permission.

Treatment or diagnostic procedures by non-University physicians, clinics or hospitals must be paid by students, their family, or their medical insurance. This includes laboratory work performed in the Health Service and gynecological laboratory services, such as, PAP Smears.

EMERGENCY

- A Crisis Coordinator is available 24 hours a day to assist in any type of emergency resulting from: Illness, Injury, Psychological Problems.
- Call Campus Security 434-6002. They will provide assistance and will contact Paramedics, Health Service and the Crisis Coordinator as needed.

RETENTION OFFICE

The Retention Office, under the direction of the Vice President for Academic Affairs, coordinates the efforts of the entire University community to ensure that the personal and educational experience for all students is the best possible. Policies, programs, services and opportunities are constantly reviewed, refined and improved in an effort to meet the legitimate needs of students consistent with the mission and goals of the University.

C. OTHER DEVELOPMENTAL SERVICES

OFFICE OF INTERNATIONAL EDUCATION

The Office of International Education (OIE) provides services to international students and scholars pursuing undergraduate and graduate degree programs at the university. These specialized services include furnishing pre-arrival information to accepted students; facilitating compliance with U.S. Immigration and Naturalization Service (INS) requirements; assisting in academic and crosscultural adjustment through initial arrival and extended orientation programs; promoting and supporting events, programs, and activities which foster deeper communication, awareness, and understanding among U.S. and international students at Duquesne; and providing on-going direct service and appropriate referral services to international students and scholars on campus in a personalized and professional manner.

The OIE supports the university's strong commitment to international education as a valued component of the overall mission of the institution.

LEARNING SKILLS CENTER

The Learning Skills Center is an ancillary academic service whose primary charge is the intellectual development of students. Services are provided in coordination with academic offices of the University.

As part of its academic assistance efforts, the Learning Skills Center delivers diagnostic and prescriptive services. Individualized developmental programs in reading, writing, mathematics and science are offered to students who seek to upgrade their academic skills and advance their intellectual growth.

A free tutorial service provides students with competent tutors in numerous subject areas. In addition, a comprehensive study skills program is available to enhance learning capabilities as well as to assist students experiencing academic difficulties.

THE PSYCHOLOGY COUNSELING CENTER

The Psychology Counseling Center is staffed by the clinical faculty and staff of the Psychology Depart-

ment and is available to students for personal counseling. Counseling interviews provide the student with an opportunity for personal growth through the development of the individual's ability, working together with a trained counselor, to find one's own compatible solutions for difficulties of a personal nature. Single conferences or a series of interviews in individual or group counseling can be arranged at the Center's office.

D. STUDENT GOVERNANCE

STUDENT GOVERNMENT ASSOCIATION

The Student Government Association is designed to provide a forum for the expression of student views and interests, to maintain academic freedom and student rights; and to provide effective representation in the policy making and operations of the University. Two major functions of the S.G.A. are to serve as student representatives on crucial University committees and to recognize and fund student organizations.

COMMUTER COUNCIL

The Commuter Council is an officially recognized, funded student governmental organization open to all students at the University. The purpose of the Council is to identify commuter concerns and to provide educational, social and service-oriented programs for the University's large commuter population. To involve the entire community in its programs, the Council works closely with the Student Government Association, Residence Council, Union Program Board and the administration.

RESIDENCE HALL ASSOCIATION

The Residence Hall Association supports Living Learning Center activities and is involved with the Office of Residence Life in developing and implementing Living Learning Center policies and procedures. All resident students are automatically members of Residence Hall Association and are encouraged to attend meetings, functions, etc. sponsored by the group.

It is the aim of the Residence Hall Association to serve as a link between the resident students and the administration. Aside from the council activities, representatives of the Residence Hall Association serve on university committees.

INTER-FRATERNITY COUNCIL

The Inter-Fraternity Council serves as a clearing house for general fraternity social information and as a forum for airing constructive proposals for the improvement of the fraternity system. Membership in the Council is composed of appointed representatives from each of the nine member fraternities. The IFC establishes all rules governing interfraternity sports and regulates pledging.

PANHELLENIC COUNCIL

The Panhellenic Council was established for the purpose of strengthening women's fraternities as organizations and for promoting cooperation among the groups through scholastic, athletic and social activities. Membership in the Panhellenic Council is composed of the presidents and elected representatives of each of the seven women's social fraternities. Panhellenic Council establishes all rules concerning the rushing and pledging of new fraternity members.

E. STUDENT ORGANIZATIONS

OFFICE OF PROGRAMS AND ACTIVITIES

The Office of Programs and Activities provides administrative and programming support for all recognized student organizations and advises all major student activities to include Carnival, Dance Marathon, Christmas Ball, Spring Fling and all Union Program Board events.

Any student group wishing to apply for official University recognition must initiate this process through the Office of Programs and Activities. Recognized organizations must also annually update their registration.

The Fall and Spring Semester Activities Calendars are compiled and published by the Office of Programs and Activities. All University departments and recognized organizations are invited to submit listings for the Activities Calendar each semester.

GENERAL

There are more than 90 student organizations at Duquesne. Some serve the needs of specific interest groups, others relate directly to major areas of study. Some honor academic achievement. Many are formed to meet social, service or religious needs and interests. Whatever their purpose, these organizations and their activities comprise a major part of campus life.

HONOR SOCIETIES

These societies have as their primary purpose recognition of academic excellence and leadership achievement and are members of the Association of College Honor Societies.

PROFESSIONAL AND DEPARTMENTAL ORGANIZATIONS

These professional organizations exist to provide opportunities for career development and the exchange of ideas pertinent to students' academic pursuits. With this purpose in mind, these organizations sponsor numerous programs including debates, symposiums and lectures.

PROGRAMS AND ACTIVITIES

The Union Program Board (UPB) is the major student programming organization of the University. It provides social, recreational, educational and cultural activities for the entire University. The UPB is directed by students and is comprised of several committees which present such events as concerts, dances, art exhibits, lectures and ski trips. Membership is open to all students.

SERVICE ORGANIZATIONS

The purpose of these nationally-affiliated organizations is to provide a high standard of service to the campus and local communities while, at the same time, developing the leadership qualities of each member of the organization. Service organizations sponsor a wide variety of professional, service, charitable and social programs.

SOCIAL ORGANIZATIONS

Social organizations are composed of college men and women who have joined together for friendship, comradeship, and activities. They sponsor and promote social, athletic, cultural, and academic events. Many of these organizations belong to Inter-Fraternity Council or Panhellenic Council.

PERFORMANCE GROUPS

TAMBURITZANS

The Duquesne University Tamburitans were founded in 1937 at the University and were the first university-based performing folk ensemble in the United States. The group takes its name from the Tamburitza family of stringed instruments, indigenous to the folk cultures of Southeastern Europe. The group exists for the dual purposes of preserving and perpetuating the Eastern European cultural heritage in the United States and offering scholarship opportunities to deserving students in music, voice and dance.

The Ensemble performs 80 shows each year and travel extensively throughout the United States and Canada. Inquiries concerning auditions should be made in the fall prior to auditions which are held in February.

THEATRE

The Red Masquers Provide an extracurricular outlet for students who wish to participate in theatre. The organization's aim is to provide the University and its students with educational and cultural benefits that accrue from a dramatic program. In line with these objectives, the Masquers' program offers a variety of stage entertainment—one-act plays, musicals, comedies, tragedies. Any Duquesne student is eligible for membership.

MEDIA ORGANIZATIONS

WDUQ RADIO

WDUQ 90.5 FM, a public radio station affiliated with the National Public Radio and American Public Radio networks, has been broadcasting from the campus of Duquesne University since 1949. The station specializes in news, public affairs and jazz. In addition, WDUQ carries live coverage of special Congressional hearings, National Press Club luncheons and other newsworthy events.

WDUQ, a 25,000 watt stereo station broadcasts 24 hours a day, 365 days a year to over 70,000 listeners in Southwestern Pennsylvania and parts of Ohio, West Virginia and Maryland within a seventy mile radius of Pittsburgh. The signal is also carried by a number of cable companies beyond that area. The station depends on listener donations, solicited mainly through on-air fundraising campaigns, for over half of its yearly operating budget. A small full-time staff oversees the daily operation of the station and supervises the activities of university students (in both volunteer and paid positions), community volunteers and high school interns working in the various departments: Programming, Engineering, Operations, Special Projects, News and Public Affairs, Administration, Production and Development.

WDUQ is located on the fourth and fifth floors of Des Places Communications Center on the Duquesne campus. Regular business hours are Monday through Friday, 9 AM to 5 PM. Tours are available upon request.

WDRG

This radio station, purchased by Residence Council and operated by students, provides music and announcements in the Duquesne Tower's Cafeteria during the lunch and dinner hours. Students interested in being disc jockeys and/or announcers on WDRG should contact Residence Council.

Part VI: Campus Ministry

The Campus Ministry is deeply concerned with the religious life and growth of Duquesne students and all campus residents. Its policies and programs are oriented to furthering that growth at the personal as well as the community level. For Catholic students, Eucharistic liturgies are celebrated daily, and the Sacrament of Reconciliation is available by appointment. For all students, whatever their faith, the Campus Ministers are available to help with spiritual direction, counseling, advice, or sympathetic listening. The Campus Ministry provides

PUBLICATIONS

The Duquesne University Code of Student Rights, Responsibilities and Conduct

The Student Code is the definitive statement of standards, policies and procedures regarding student rights and responsibilities, campus organizations, student governance, student records, student conduct and the University Judicial System. Copies are available at the Duquesne Union Information Center.

The Duquesne Duke, the University campus newspaper is written and edited by the students for the students. It appears every Thursday during the academic year except during examination periods and holidays, and provides an array of campus news, student opinions, editorials and advertisements. The paper is geared to all members of the University: administrators, faculty members, employees, and most of all students. Membership in the Duquesne Duke is open to all students.

The Duquesne Magazine is a literary publication, published each semester which affords students the opportunity to submit writing, artwork and photographs.

L'Esprit du Duc, the University yearbook, highlights the events of each year for students, faculty and staff. It is published in the fall of each year, and mailed to all seniors pictured in the book to remind them of their alma mater. This yearbook covers student life on campus; groups and organizations; varsity, club and intra-mural sports; events on campus; and the year in review. Membership on the Yearbook staff is open to all students.

The Student Handbook contains information about the University which concerns the students. Copies are available at the Duquesne Union Information Center.

a listing of Sunday services in nearby churches or synagogues and referrals can be made to introduce the student to the various ministers or rabbis in the area. The University Chapel is open each day for private prayer and quiet meditation. It is available too, to groups for specific services of a religious nature.

The Campus Ministry sees itself at the service of all in an open, unstructured, nonthreatening relationship and invites the entire Duquesne Community to make use of its services.

Campus Ministry's religious, social, and community outreach activities are announced by posters in residence halls, and almost all other campus buildings. Its main office is Room 102 on the first floor of the Administration Building, with additional offices in Duquesne Towers, St. Ann's, and Assumption.

Part VII: University Programs and Courses

CORE CURRICULUM

Effective for Freshmen
Entering Fall 1990

STATEMENT OF PURPOSE

The University Core Curriculum is a set of courses that provide Duquesne undergraduates with a common intellectual experience as the foundation for their college careers. Because this curriculum is seen not merely as a preparation for the students' professional or pre-professional majors but also for lifelong learning, the Core courses focus on issues and values central to the liberal tradition and to the mission of the University. By developing some mastery of the fundamental skills and fundamental subjects taught in the Core courses, students will be better able to adapt to a changing world.

Among the fundamental skills the Core courses emphasize are critical thinking and effective communication. The abilities to make informed judgments and to speak and write clearly and persuasively are commonly regarded as the marks of an educated person. Students practice these skills not only in specific courses but across the entire curriculum.

The fundamental subjects which the Core courses integrate are those that contain themes of enduring importance: the history and cultural heritage of the West; the diversity and richness of all human cultures; the structures by which societies organize themselves; the role of science in the modern world; the relation of the arts to human experience; the process of defining personal identity and personal values; the dimensions and significance of faith and religion.

CORE COURSES

There are seven courses and two course-areas in the Core Curriculum, totaling 27 credits:

101. Thinking and Writing Across the Curriculum

3 cr.

Practice in analysis and expression in many disciplines, as preparation for other work in the university-wide integrated Core Curriculum and for later courses throughout the university.

102. Imaginative Literature and Critical Writing

3 cr.

A college-level introduction to imaginative literature and to a variety of critical techniques for interpreting imaginative literature. Thinking and Writing Across the Curriculum is a prerequisite.

121. Problem Solving with Creative Mathematics

3 cr.

An exploration of mathematics as a science and an art with an emphasis on problem solving. Students may also satisfy this requirement with one of the basic Calculus courses (111 or 115), or Fundamentals of Statistics 125.

131. Bases of Human Thought and Action

3 cr.

This course examines some fundamental theories and findings regarding the way people feel, think, and act from the perspectives of psychology and philosophy. The outcome of this course will be an understanding of the disciplines of philosophy and psychology, and their relationships to each other.

141. Social, Political and Economic Systems

3 cr.

The disciplines of Economics, Political Science, and Sociology collaborate to explore questions about equality and inequality in various societies. The course specifically addresses economic, political, and legal issues as they relate to gender, age, race, and ethnicity.

151. Shaping of the Modern World

3 cr.

An understanding of change through time is essential to the comprehension of the world in which we live. "The Shaping of the Modern World" studies the contemporary age through the examination of three significant phenomena: revolution, industrialism, and war.

161. The Arts and the Human Experience

3 cr.

The visual and musical arts are explored in light of the major themes, movements, and styles of Western culture. Emphasis is placed on the points of convergence and divergence among the arts. The course draws upon the rich cultural resources of the Pittsburgh community, such as the Carnegie Institute, the Pittsburgh Symphony, the Pittsburgh Ballet, and the Pittsburgh Opera.

Core Science

3 cr.

Students may choose one of the courses described below (171, 172, or 173). Each course presents a body of fundamental knowledge to provide the student with an awareness and understanding of the discipline. As this body of knowledge is explored, examples of scientific inquiry will be presented to explain the scientific method as the foundation of modern scientific thought. Each course will lead students to some understanding of the scientific bases of selected problems facing humankind. (Students may also satisfy the Core Science requirement by one of the following courses: Biology 111 or 112; General Chemistry 121 or 122; General Physics 201 or 202.)

171. Biology

Evolution, inheritance, and the interrelation of energy, life, and the physical environment provide

the unifying themes of this course. Each of these is examined from multiple levels of organization—from the molecular to the biosphere—demonstrating the diversity of life within which the commonality of life is found. Issues to be considered include those critical to effective citizenship in our changing world such as disease, reproduction, genetics, genetic engineering, and ecology.

172. Chemistry

The fundamental concepts of structure, bonding, properties, and chemical reactivity are presented through lecture and classroom experimentation. A consideration of consumer chemicals and the role of the chemical industry emphasizes the importance of chemistry and related technologies in our everyday lives. The chemical dimensions of selected social issues of current importance in the areas of environmental chemistry, energy technology, and food production are examined.

173. Physics

Through the study of a particular topic such as space habitats, students are introduced to physical concepts which serve as the basis for understanding technological developments that have important implications for society. Among these developments are, for example, artificial gravity, solar energy, and the Strategic Defense Initiative. Where applicable, principles from other disciplines such as economics, psychology, chemistry, and biology will be introduced.

Core Theology

3 cr.

The Core Theology courses expose students to the major religious traditions of humankind. The courses examine the moral, intellectual, and cultural dimensions of these traditions. This requirement may be fulfilled by any one of the following courses: 182, 183, 184, 185, 186, 187.

182. Human Morality

An introduction to the basic questions and approaches of Christian ethics, emphasizing the formulation and formation of moral values, the sources and context of Christian ethics, in its biblical and historical development, and including applications to some contemporary issues.

183. The Judeo-Christian Religious Tradition

A study of the fundamental beliefs, values and spirit of the Judeo-Christian tradition as expressed in its religious texts, worship, spirituality, moral codes, and intellectual tradition. The course includes an investigation of the Judeo-Christian faith in a personal God, in the dignity of the human person, in the importance of community, in the fundamental goodness of creation and the meaning and value of human existence.

184. Introduction to the Bible

An introduction to the methods of investigation necessary to understand the sacred books of Jews and Christians. An examination of the historical,

literary, and theological aspects of a select number of key biblical texts and a discussion of their contemporary relevance.

185. Religions: East and West

A study of some of the world's great religions which are thought to be particularly representative of humanity's religious experience: namely, archaic traditions, Hindu and Buddhist traditions, Chinese traditions, and the Islamic path.

186. Roman Catholic Heritage

An introduction to the fundamental beliefs of Roman Catholicism and their expression in literature and the visual arts. After a brief presentation of the interrelation of religion and culture, Roman Catholicism is studied in various historical periods: Origins of Christianity, the Patristic Age, the Middle Ages, Scholasticism and the Renaissance, the Reformation and the Counter-Reformation, and the Modern and Contemporary Eras.

187. Christian Understanding of the Human Person.

3 cr.

An investigation into the question of "What does it mean to be human?" according to Judaeo-Christian teaching; a discussion of the relationship of the human person to self, others, the world, and the Divine as the basis for humanness; a study of the issues involved in these four relationships, e.g., freedom, grace, contemplation.

Note: Approved alternate courses for Core 131, 141, and 161 are available to students in the College and the School of Business and Administration. In general, students will complete the Core requirements according to guidelines established by their respective schools and in consultation with the Advisement and Referral Center.

THE INTEGRATED HONORS PROGRAM

The Integrated Honors Program (IHP) is the honors track of the University Core Curriculum. It is intended for qualified students who wish to accept the challenge of an accelerated learning experience in the Core program. Acceptance is based on a review of credentials, including high school grades, QPA, SAT or ACT scores, high school class rank, and a letter of recommendation from the high school principal, counselor, or teacher. All students with exceptional high school records are encouraged to apply. Further information is available at the Advisement and Referral Center.

IHP COURSES

The IHP curriculum consists of the following courses:

101. Logic and Rhetoric

3 cr.

Clear and disciplined thinking, reading, speaking and writing.

111 and 112. Civilizations:**Great Issues I and II. 3 cr. each**

An intensive study of key ideas and significant people and events of the great civilizations of West and East.

114. The American Experience 3 cr.

The rise and significance of the U.S. as a democratic, industrial, affluent, and open society.

203. Societal Structures 3 cr.

The objective and subjective societal framework within which the individual functions. This course will be offered by one or more faculty from Economics, Political Science, Psychology, and Sociology, and content will vary.

211. Cultural Perspectives 3 cr.

An inquiry into patterns of beliefs, values, ideologies, and norms of human society through studies of language, literature, religion, art, and history. This course will be offered by one or more faculty from Art History, Classics, Communication, English, History, Modern Languages and Literatures, Philosophy, and Theology, and content will vary.

In addition to the above-listed courses, all IHP students must complete the following general requirements:

natural sciences	3 cr.
mathematics (Problem Solving with Creative Mathematics; Calculus; Statistics)	3 cr.
social sciences	3 cr.
philosophy	3 cr.
theology	3 cr.
humanities	3 cr.

CONCENTRATED STUDIES

Concentrated Studies is a highly structured one-year curriculum designed to help students improve their basic skills and realize their full potential for college work. Students in the program take a prescribed block of college level courses during their freshman year and thereafter complete their education at Duquesne in the traditional manner.

Emphasis in Concentrated Studies is on critical thinking and reading, and the development of ability in the use of language skills. The program features an integrated and mutually reinforcing set of required and demanding courses, including:

Core 101, 102. Thinking and Writing Across the Curriculum and Imaginative Literature and Critical Writing 4 cr. ea.

Practice in effective writing. Review of principles of grammar and rhetoric; introduction to literary types and forms. 101 is prerequisite to 102.

Classics 101, 102. Basic Latin 5 cr. ea.

Study of the grammar and syntax of Latin, both as a discipline, and as a basis for learning how language works. The courses maintain a constant comparative tension between Latin and English, in an effort to uncover basic language structures common

to the two languages, and to understand Latinate influences on English.

Core 121. Problem Solving with Creative Mathematics 3 cr.

An exploration of mathematics as a science and an art with an emphasis on problem solving.

Core or College Requirements 6 cr.

The balance of the student's schedule may be drawn from the University Core Curriculum.

Students in Concentrated Studies are admitted into Duquesne University's College of Arts and Sciences. However, after completing a year to the required Concentrated Studies curriculum, achieving satisfactory academic performance, and meeting any admissions standards, qualified Concentrated Studies students may matriculate to a major in any of the schools of the university. Courses in the Concentrated Studies curriculum carry full college credit, will not normally delay graduation, and serve to meet a number of university and school requirements.

ENGLISH AS A SECOND LANGUAGE PROGRAM

Duquesne University offers a comprehensive English as a Second Language Program (ESLP) open to international students admitted to academic degree programs as well as students admitted to the ESLP on a non-degree, certificate of completion basis.

The ESLP offers intensive, semi-intensive, and specialized instruction on basic, intermediate, and advanced levels. Intensive levels meet for twenty hours of instruction per week. Semi-intensive and specialized levels offer instruction for between four and sixteen hours per week, depending upon students' proficiency as determined by English Language Placement Tests.

The ESLP focuses primarily upon English for Academic Purposes (EAP). Qualified students at intermediate and advanced levels may combine coursework in their academic degree major with ESL study. Eligible international students accepted to undergraduate degree programs may be awarded academic credit for their ESL coursework.

The ESLP offers instruction throughout the academic year during three semesters: Fall (Late August to December), Spring (January to April), and Summer (May to July). ESL faculty advisors assist each student in the selection of appropriate ESL courses in five major areas: grammar, reading, listening comprehension/note-taking, pronunciation/speaking, and writing. A full-semester orientation program is also available to assist new international students, in adjusting to academic and cultural life in the university.

COURSE DESCRIPTIONS

Basic-Level Courses 0-3 cr.	Hrs./Week
120. Basic ESL Grammar	4
121. Basic ESL Pronunciation/ Oral Skills	4
122. Basic ESL Reading	4
123. Basic ESL Writing	4
124. Basic ESL Aural Comprehension	4

A group of basic-level courses for students whose native language is other than English. Includes up to sixteen hours of classroom instruction and four hours of language laboratory instruction per week. Level and course assignment determined by placement testing.

Intermediate-Level Courses 0-3 cr.	Hrs./Week
125. Intermediate ESL Grammar	4
126. Intermediate ESL Pronunciation/ Oral Skills	4
127. Intermediate ESL Reading	4
128. Intermediate ESL Writing	4
129. Intermediate ESL Aural Comprehension	4

A group of intermediate-level courses for students whose native language is other than English. Includes up to sixteen hours of classroom instruction and four hours of language laboratory instruction per week. Prerequisite: Basic-Level Courses (120 through 124) or Placement Testing.

Advanced-Level Courses 0-3 cr.	Hrs./Week
130. Advanced ESL Grammar	4

A rapid review of English grammar including advanced-level practice designed to supplement oral and written proficiency. Prerequisite: Intermediate-level Courses (125 through 129) or Placement Testing.

131. Advanced Oral Proficiency	4
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An advanced ESL oral proficiency course including conversational practice, preparation and presentation of oral reports, and participation in discussion of seminar topics. Prerequisite: Intermediate-level Courses (125 through 129) or Placement Testing.

132. Advanced ESL Reading	4
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An advanced reading skills course including intensive vocabulary development, scanning, reading comprehension, and reports on outside reading. Prerequisite: Intermediate-level Courses (125 through 129) or Placement Testing.

133. Advanced ESL Writing	4
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An advanced writing skills course including concentrated practice in theme conceptualization, organization, outlining, paragraph development, and extended composition. Prerequisite: Intermediate-level Courses (125 through 129) or Placement Testing.

134. Advanced Aural Comprehension	4
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An advanced course focusing on listening comprehension and note-taking skills in language laboratory/practicum settings. Prerequisite: Intermediate-level Courses (125 through 129) or Placement Testing.

Special Purpose Courses var. cr.	Hrs./Week
135. ESL Special Topics	4

An ESL course designed to address specialized skill development in English as a Second Language. Prerequisite: Placement Testing.

140. ESL Special Purposes Reading	4
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An English for Special Purposes course focusing on intensive and extensive reading skills offered through the use of instructional materials designed around specialized fields. Prerequisite: Placement Testing.

141. ESL Special Purposes Writing	4
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An English for Special Purposes course focusing on academic writing and research skills required to prepare research summaries, final reports, and term papers. Prerequisite: Placement Testing.

142-147. ESL Guided Study	var.
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A multi-level program of ESL language proficiency development offering supervised, continuously sequenced instruction in individually-prescribed learning modules. Prerequisite: Placement Testing.

149/150. New International Student Seminar	0-1 cr.
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A series of discussions and activities designed to facilitate the transition and adjustment of new international students to U.S. academic life, the city of Pittsburgh, and Duquesne University.

Core 101. Thinking and Writing Across the Curriculum (ESL)	3 cr.
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An introduction to and preparation for both the university-wide integrated Core Curriculum and the many general and specific aspects of the entire university curriculum. Prerequisite: Placement Testing.

EXTRA-DEPARTMENTAL COURSES

008. Study Skills	1 cr.
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An examination of the academic problems most frequently encountered by college students. Practical exercises on a variety of topics, including time budgeting, stress management, note-taking techniques and test preparation strategies.

015. New Student Seminar	1 cr.
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An exploration of the college adjustment process as it occurs. Study and discussion center on the exploration of college expectations, academic skills, self-esteem, major and career choices, values, time management, social skills and activities and university helping resources.

College of Liberal Arts and Sciences

Administration:

Dean:

John J. McDonald, Ph.D.

HISTORY

In 1878 the Fathers of the Congregation of the Holy Ghost and the Immaculate Heart of Mary established a College of Arts and Letters which was incorporated in 1882 as Pittsburgh Catholic College of the Holy Ghost with authority to grant degrees in the arts and sciences. In 1911 the College and University Council of the Commonwealth of Pennsylvania extended the charter to university status and approved the amendment in favor of the corporate title, Duquesne University.

PHILOSOPHY AND OBJECTIVES

Duquesne University believes that education is concerned with the human person as a whole—mind, body and soul. It believes that each individual has the obligation to self, society, and God to develop potential to the fullest. In this commitment, the College of Liberal Arts and Sciences sets its objectives and forms its curricula.

The objectives of the College are:

1. To provide a solid foundation for lifelong learning.
2. To develop an awareness of the methodologies and epistemologies of the major areas of knowledge so that evaluations and judgments may be valid.
3. To assist in both the growth of self-knowledge and the development of a philosophy of life.
4. To assist in the understanding of one's relation to God, to society, and to nature.
5. To perfect that skill in the use of standard English necessary to clear, coherent expression of one's thoughts, hopes, and ideals.
6. To cultivate a background for the learned professions and for scholarly pursuits.

DEGREES

The College confers three undergraduate degrees: Bachelor of Science, Bachelor of Arts and Bachelor of Perfusion Technology. Students who complete the major in biology, biochemistry, chemistry, computer science, microbiology or physics receive the B.S. degree. Students who complete the major in classics, communication, economics, English, history, modern languages and literatures, philosophy, political science, psychology, sociology, and theology receive the B.A. degree. Students majoring in mathematics can follow a curriculum leading to either a B.A. or B.S. degree. Students seeking the

degree in Perfusion Technology follow the special curriculum described on pages 75-76.

GRADUATION REQUIREMENTS

To receive the Degrees of Bachelor of Arts or Bachelor of Science in the College of Liberal Arts and Sciences, a student must complete the following requirements:

A minimum of 120 semester hours of course credits. The last 30 hours must be taken at the University.

University Core Curriculum.

College General Requirements, as described below.

Major program (minimum of 24 credits; see departmental listings).

Minor program (minimum of 12 credits; see departmental listings).

An overall minimum cumulative quality point average of 2.0. A minimum cumulative quality point average of 2.0 both in the major and in the minor.

Removal of I and F grades both in the major department and in required courses.

Submission of Pre-Graduation Review Form (available in College Office) to the Dean's Office, no later than two weeks before pre-registration for the final semester.

Pre-registration (on form SR1) for B.A. or B.S. degree in major field. Submission of application for the degree on form provided by the Registrar, before the deadline published in the current University calendar. No student is considered a degree candidate prior to submission of this form and official registration for the degree.

To receive the degree Bachelor of Perfusion Technology, students complete the University Core and the program of pre-professional and professional courses described on pages 75-76.

COLLEGE GENERAL REQUIREMENTS

Students enrolled in the College of Liberal Arts and Sciences for the B.A. or B.S. degree are required to complete the University Core Curriculum, consisting of 27 credits, for graduation.

In addition to the University Core, students in the College are required to fulfill the following area requirements for graduation:

- | | |
|---|---|
| Modern or Classical Language .. | proficiency at the 202 level |
| Math/Science (mathematics, computer science, biology, chemistry, physics) | 3 credits |
| Social Sciences (Political Science, Psychology, Sociology) | 6 credits (two disciplines must be represented) |

- History/Literature 6 credits
(must include literature)
- Philosophy/Theology 6 credits
(must include philosophy)
- Communication 3 credits

Courses taken in major or minor programs may also be used to satisfy the College General Requirements.

COLLEGE ACADEMIC POLICIES

Effective catalog

Degree requirements are those stipulated in the catalog of the year in which a student matriculates. The student is responsible for knowing the requirements for the degree. Requirements may be changed without notice or obligation. This catalog has been prepared on the best information available as of Spring 1990. Major requirements are those stipulated in the catalog of the year in which a student declares the major.

Academic Load

While a 12-credit schedule in a regular semester is considered full-time study, students may normally carry five courses (15-17 credits) in one semester. A schedule of more than five courses or 17 credits must be approved by the Dean's Office. Students on academic probation may not take more than 15 credits. Students who wish to carry more than 12 credits of courses in the summer sessions must consult with the Dean.

Residence Requirement

The last 30 credits must be taken in residence at the University.

Limits on Inter-School Electives

A maximum of 12 credits in Duquesne University courses outside the College of Liberal Arts and Sciences may be applied to the B.A. or B.S. degree. However, if the student chooses the Certificate in Business Program (24 credits) or an inter-school minor (Education, 15; Music, 15), the maximum credits required will be applied to the degree, but all other courses must be selected from College offerings.

Major/Minor in Same Department

A student may not major and minor in the same department, with the exception of language majors, who may minor in a second language, and majors in computer science or mathematics, who may major in the companion discipline.

Sequential Courses

Sequential courses must be taken in proper sequence. Credit will not be given for a prerequisite course if courses for which it is prerequisite already have been taken.

Temporary Transfers

No course taken by a student in the College as a Temporary Transfer at another institution may count toward a College degree unless approved by the Dean.

CLEP and Advanced Placement

See page (9).

University-Level Courses Taken While in High School

University-level courses taken by entering freshmen students while in high school will be evaluated for credit if the following criteria have been met:

- The courses are recorded on an official transcript from an accredited institution of higher learning.
- The grades are C or better.
- The student has completed one semester at Duquesne with a C+ average, or better.

SPECIAL PROGRAMS

PROGRAM IN WORLD LITERATURE

The Departments of Classics, English, and Modern Languages jointly offer a World Literature program, with both major and minor sequences. The program is designed to give the student an awareness of the historical and cultural framework in which Classical, British, American, Continental, Asian and African Literatures have evolved, their influence upon each other, and an in-depth study of selected major literary works in these areas.

REQUIREMENTS OF THE PROGRAM

Major: 24 credits (6 in the core and the remaining 18 credits distributed equally among Classics, English, and Modern Languages)

Minor: 15 credits (6 in the core and the remaining 9 credits distributed equally among Classics, English, and Modern Languages)

Core Course: Readings in World Literature I and II (English)

DEPARTMENTAL COURSE OFFERINGS

Classics: Any of the current offerings in Classical Literature, either in translation or in the original language, at the 200 level or above.

English: Any of the current course offerings in Literature at the 300-400 level, as approved by the department chairperson.

Modern Languages: Any of the current offerings in Modern Languages, either in translation or in the original language, above the 302 level.

PRE-LAW

Students who intend to prepare for a career in law may select any subject area for the undergraduate major. In consultation with the Pre-Law advisor, the

students will be expected to meet degree requirements in the major department, as well as admission requirements of the law school of their choice.

PRE-HEALTH PROFESSIONS

Students who intend to prepare for a career in medicine, dentistry, veterinary medicine, or related fields may major in the subject area of their choice and should select a major as soon as possible. They must meet degree requirements of the major department, as well as admission requirements of the professional school of their choice. The Pre-Health Professions advisor assists the medically-oriented student.

LIBERAL ARTS ENGINEERING

Students who intend to prepare for a career in engineering may enter a 3-2 binary program that Duquesne University maintains with Case Western Reserve University in Cleveland, Ohio, and Florida Institute of Technology. Students are expected to meet the curricular requirements of the College of Liberal Arts and Sciences except for the completion of a major program. Under the guidance of a liaison officer, they will normally complete the program at Duquesne University in three years, then enter an engineering program at Case or Florida Institute of Technology.

Upon completion of the program at CWRU or FIT students will be awarded the B.A. Degree from Duquesne and B.S. Degree from the School of Engineering.

For complete details consult with the Liaison Officer for the Binary program in Engineering in the Physics Department.

CERTIFICATE IN BUSINESS

This program enables students to preserve the benefits of a liberal education while also acquiring business skills. The program consists of 4 prerequisite courses (12-14 credits) in the College of Liberal Arts and Sciences and 8 courses (24 credits) in the School of Business and Administration. Specific requirements are as follows:

Liberal Arts and Sciences

- 109 College Algebra (3 cr.)
- or
- 105 College Algebra and Trigonometry (4 cr.)
- 111 Calculus for Non-science Students (3 cr.)
- or
- 115 Calculus I (4 cr.)
- 221 Principles of Economics I (3 cr.)
- 222 Principles of Economics II (3 cr.)

Business and Administration

- 181 Introduction to Computers (3 cr.)
- (Substitution of College computer courses may be allowed in consultation with the program advisor.)
- 281-282 Probability and Statistics (6 cr.)

(Student may substitute 301-302 Introduction to Probability and Statistics) (Prerequisite: 116 Calculus.)

211-212 Introductory Accounting (6 cr.)

Business Emphasis — One of the following areas of concentration may be chosen. All courses listed are in the School of Business and Administration.

A. General Business Sequence

- Bus. 361. Principles of Management 3 cr.
- Bus. 371. Principles of Marketing 3 cr.
- Bus. 331. Business Finance 3 cr.

B. Management Information Systems Sequence

- Business. 381. Intro. to Decision Sciences 3 cr.
- Two advanced management Information courses 6 cr.

C. Management Sequence

- Bus. 361. Principles of Management 3 cr.
- Two advanced management courses; general or human resource 6 cr.

D. Marketing Sequence

- Bus. 371. Principles of Marketing 3 cr.
- Two advanced marketing courses 6 cr.

E. Finance Sequence

- Bus. 331. Business Finance 3 cr.
- Two advanced finance courses 6 cr.

F. Accounting Sequence

- Bus. 311. Intermediate Accounting I 3 cr.
- Bus. 312. Intermediate Accounting II 3 cr.
- One advanced accounting course 3 cr.

G. Law Sequence

- Prerequisite - Substitute 251 Legal Process for 282 Probability and Statistics II) Plus 9 credits from:
- Bus. 353. Contracts 3 cr.
- Bus. 354. Commercial Transactions 3 cr.
- Bus. 355. Law of Business Organizations 3 cr.
- Bus. 356. Legal Aspects of Human Resources Management 3 cr.

H. International Business Sequence

- Bus. 341. International Business 3 cr.
- Two advanced international business courses 6 cr.
- Appropriate Modern Language "for business" at 306 level 3 cr.

Suggested Additional College Electives:

- 383 Writing for Business and Industry (3 cr.)
- 385 Prof. and Tech. Writing Workshop (3 cr.)
- 102 Techniques of Oral Communication (3 cr.)
- 401 Cooperative Education (3 cr.)

The student must complete the business emphasis as it is set up. There are no substitutions.

The student must achieve a minimum grade of C in each course.

Students with waivers for prerequisite courses (Introduction to Computers and Statistics I and II), especially math and computer science majors, will be permitted to take an additional 9 credits in Business and Administration.

Because in most cases it will take three years to complete the certificate, students are strongly urged to register for the program by the end of their freshman year. To register, students should file a completed application form in the College Office. This, along with a copy of the most recent transcript will be sent to the advisement office in the School of Business and Administration. A School of Business advisor will assist the candidate in planning the program.

OTHER CERTIFICATE PROGRAMS

Certificate programs are also available in Computer Science (Department of Mathematics and Computer Science), Corporate Communication and Professional Communication Skills (Department of Communication), and Gerontology (Department of Sociology). Several of these are offered in conjunction with the Center for Continuing Education. Further information may be obtained from the appropriate department or from the Center.

INTER-SCHOOL MINORS

Inter-school minors are available in Education and Music. For complete details students should consult the advisor or the Dean of the College. If a student has an interschool minor, all elective credits must be chosen from the Liberal Arts and Sciences courses.

COOPERATIVE EDUCATION PROGRAM

The Cooperative Education program is a service to students seeking expanded education through work experience and to employers seeking temporary pre-professional staff with the ultimate objective of early identification of the best available college educated talent for permanent assignment.

Under this plan, students may be employed in business, government and other institutional settings. The program design provides for short-term work assignments, and it requires the regular rotation of students in each job and competitive referrals for each work period. Employment may be either full- or part-time for one academic term or its equivalent.

It is expected that the cooperative education student will be paid a salary commensurate with the work assigned. The actual job must be pre-professional, well-defined and fully supervised.

Sixty (60) or more earned credits and a cumulative quality point average of 2.5 or better are basic requirements for student qualification for the Program. Clearance from academic advisors is required of those studying in departments with other internship options.

When employed, and before starting work, a cooperative student must enroll in the course, "Cooperative Education," which carries a minimum-

maximum of three to nine credits depending on the number of hours of work.

For further information about the Cooperative Education Program, interested parties should contact: Director, Career Planning and Placement.

BACHELOR OF ARTS—LIBERAL ARTS AND GENERAL SCIENCES

This program is designed for those students who prefer not to choose a formal major or minor offered in a traditional discipline. All requirements other than the major and minor must be completed. Students must select one area of concentration: Humanities, Social Sciences, Natural Sciences. A concentration requires a minimum of 30 credit hours and a maximum of 39 hours. Courses must be chosen from courses 200 and above. Further information is available in the Dean's Office.

BACHELOR-MASTER'S PROGRAM

A student who has completed all requirements and a total of 90 credits with a 3.5 average may apply for the bachelor/master's program. After successful completion of the master's program, the student will receive the bachelor's degree from the College of Liberal Arts and Sciences. Further information is available from the Graduate School of Liberal Arts and Sciences.

BACHELOR/PROFESSIONAL SCHOOL

A student who has completed 90 credits with a 3.5 overall average and satisfied all undergraduate curricular requirements may apply for the bachelor's degree after the successful completion of the first year of professional work in an accredited medical or law school. Further information is available from the Dean's Office.

SECOND BACHELOR'S DEGREE

A student who has received a bachelor's degree from another school may become eligible for a second bachelor's degree by earning an additional 30 semester hours in residence in the College of Liberal Arts and Sciences and by meeting all departmental and College requirements if not already satisfied. The additional 30 credits must be completed at the University and may not be taken through cross-registration. Further information is available from the Dean's Office.

THREE-YEAR BACHELOR'S DEGREE

For more information contact the Office of Admissions or the Dean's Office.

MAJORS

Advertising	Media Production
Biochemistry	Microbiology
Biology	Organizational
Broadcast Journalism	Communication
Classics	Philosophy
Classical Civilization	Physics
Communication	Political Science
Corporate	Print Journalism
Communication	Psychology
Computer Science	Public Relations
Economics	Sociology:
English	Concentrations in
French	Sociology, Criminal
German	Justice, Human
Greek	Services/Gerontology
History	Spanish
Latin	Theology
Mathematics	World Literature
Media Management/	
Operation	
Media Performance	

MINORS

Advertising	Italian
American Literature	Mathematics
Biochemistry	Media Management/
Biology — Professional	Operations
Minor	Media Performance
Biology — Academic	Media Production
Minor	Microbiology
Broadcast Journalism	Organizational
Chemistry	Communication
Classical Civilization	Philosophy
Classical Languages:	Physics
Latin	Political Science
Greek	Priestly Formation
Communication	Print Journalism
Corporate	Psychology
Communication	Public Relations
Computer Science	Sociology
Criminal Justice	Spanish
Economics	Theology
English Literature	World Literature
French	Writing
German	
Gerontology/Human	
Services	
History	

of art history to those who wish to extend their visual perimeter and to understand the role of the visual arts in Western culture. Qualified students may take additional upper division art history courses offered at member colleges of the Pittsburgh Council on Higher Education. In addition to personal enrichment and heightened awareness of man's will to create visual forms, the study of art history can lead to careers in teaching, publishing, museology, historic preservation, and urban redevelopment.

REQUIREMENTS FOR THE MAJOR

A History major with a concentration in Art History is available. Consult the History Department listing for requirements.

REQUIREMENTS FOR THE MINOR

The minor consists of 15 credits, nine of which must be above the 100-level.

111. History of Art: Ancient to Medieval World. 3 cr.

A chronologically oriented, detailed presentation of the history of Western art. This survey deals with Near Eastern, Greek, Roman, Early Christian and Medieval art. (Can be elected to fulfill the history/literature requirement.)

112. History of Art: Renaissance to Modern World. 3 cr.

A continuation of 111. Surveys Renaissance, Baroque and Modern art in Western Europe. (Can be elected to fulfill the history/literature requirement.)

206. Greek Art. 3 cr.

A study of the architecture, sculpture, vase painting, and minor arts of the Greek world from Minoan to Hellenistic times. The student is introduced to the extensive vocabulary of Greek art which has been a continuing formative force in Western art.

207. Roman Art. 3 cr.

An introduction to Roman innovations in architecture, sculpture, and painting. The background of Roman art in Etruscan, Greek, and Egyptian civilizations is investigated, and the impact of Roman art in formulating Christian Art, Renaissance Art and Neo-Classicism is analyzed.

208. French Art. 3 cr.

A survey which discusses ideas, schools, and styles in the history of French art from the Roman occupation to the present. Highlights are Medieval, Renaissance, Rococo, and Modern art.

210. American Art. 3 cr.

An overview of American architecture, painting, sculpture and decorative arts intended to acquaint the student with the major trends and contributions of American art from colonial to modern times.

220. History of Photography. 3 cr.

A survey of photographic developments from the early 19th C. to the present. Emphasis is upon the

Course Descriptions

ART HISTORY

Director: Madeline C. Archer, Ph.D.

Survey and period courses in the history of western art are offered by the Art History program of the History Department to introduce the concepts

United States and upon the interaction of and confrontation between artists and photographers.

250. Classical Archaeology. 3 cr.
An examination of the contribution made by archaeological investigation to our understanding of Greek and Roman Civilization. Lectures and slide presentations explore the major sites and archaeological finds in the Greco-Roman world beginning with the rediscovery of the treasures of Mycenae and ending with the expansion of Roman influence into Britain, Asia, and Africa. An introduction to the goals and technique of archaeological research is included. (Does not meet History or Core requirements.)

312. Late Medieval Art. 3 cr.
Western European Art from the 11th to the 14th century. Focus is upon the development of stone vaulting systems, monumental architectural sculpture, stained glass, fresco and panel painting, and illuminated manuscripts in England, France, Italy, and Germany.

321. 15th Century Renaissance Art. 3 cr.
An investigation of the Renaissance spirit of the 15th century. Concentration is upon comparisons of Northern and Southern attitudes of man, nature, and social structure, and to materials, techniques, pictorial representation, and iconography.

331. Art of the 19th Century. 3 cr.
A survey of the visual arts in the 19th century. The visual arts not only reflect the dramatic changes in the artists use of form, color, line, texture and light, but also emphasize the changing political, religious, and social values in society.

332. Art of the 20th Century. 3 cr.
A chronological study of 20th century painting and sculpture which "looks beyond visual perception" and tries to find the essence and meaning of reality. From cubism to conceptual art, from Picasso to Pollock and Pop, this course offers a thorough exploration of the visual arts of the 20th Century.

370, 371, 372, 373, 374, 375, 376, 398
Special Studies in Art History. 3 cr.
An occasional course in this series is offered when special interests of students and faculty can be served. Courses offered include The Image of Women in Art, Picasso, Impressionism, Egyptian Art, Michelangelo, Post Impressionism, Contemporary Art, Art and Society.

431. Directed Readings. 1-3 cr.
Permission of Department.

441. American Painting and Sculpture. 3 cr.
An examination of the forms created by American painters and sculptors from the early 17th through the late 20th century. A special class intent involves arriving at a clear understanding of America's concept of reality during these years, particularly in the 20th century. (Offered in alternate years)

442. American Architecture. 3 cr.
Construction, style, building types, and concepts of city planning in American architecture from the 17th century to the present. Field trips to important monuments in the Pittsburgh area are scheduled. (Offered in alternate years)

443. American Decorative Arts. 3 cr.
Decorative arts from the Pilgrims to the Bauhaus are examined in context: historical, formal, technological, and cultural. Field trips to Carnegie Institute and other area collections are scheduled. (Offered in alternate years)

478. Internship. 3 cr.
Practical experience in art related areas introduces the student to the many opportunities in the art field. Prerequisite: Permission of the Art History faculty and completion of the Art History minor.

DEPARTMENT OF BIOLOGICAL SCIENCES

Chairperson: H. Bernard Hartman, Ph.D.

Professors: Frank Baron, Ph.D.
Peter Castric, Ph.D.
Howard Ehrlich, Ph.D.
H. Bernard Hartman, Ph.D.
Aris Sideropoulos, Ph.D.
Tata Subhas, Ph.D.
Steven Thomas, Ph.D.

Associate Professor: Kenneth Boyd, Ph.D.

Assistant Professor: John F. Stolz, Ph.D.

Research Assistant Professor: Olushola Adeyeye, Ph.D.

Adjunct Faculty: Jagdish P. Bhatnagar, Sc.D.
Spyros D. Kominos, D.Sc.
John Kuchta, Ph.D.

Biology is the study of mechanisms and principles governing living systems. Based upon chemistry, physics and mathematics, knowledge of biology is an essential element in a liberal education. Through lectures, seminars, laboratories, and participation in research projects, the Department of Biological Sciences at Duquesne University provides not only insight into this vast and exciting area, but intellectual enrichment, as well as preparation for professional careers.

Students majoring in biology develop a course of study suited to their long term goals. For example, the Health Professions Program advisor in our Department counsels students as they progress through their curriculum and apply for admission to health-related professional schools. Course selections of students wishing to pursue graduate training, or the many and diverse bio-technological research career opportunities in industry, government or universities, are guided by the Microbiology Major and Biology Major advisors.

REQUIREMENTS FOR THE MAJORS

The Department offers two Majors. Both require a minimum of 31 credits within the department (including General Biology 111, 112) and the following extradepartmental requirements: Calculus 115; General Chemistry 121, 122; Organic Chemistry 205, 206 or 221, 222; Physics 201, 202 or 211, 212. The Microbiology Major also requires Biochemistry 401 and three credits in Computer Science. Credits earned in courses 201, 206, 207, 208, 209, 210, and 220 cannot be credited for either major. Majors must take a minimum of 15 credits in biology at Duquesne University.

1. The *Biology Major* consists of a balanced program of courses selected from the Majors Courses listed below. While this major has an animal biology focus, the selection of courses available permits other experiences. Central to this program is the opportunity for training with research-active faculty.

2. The *Microbiology Major* has been designed to provide an introduction to the essential areas of microbiology and in-depth studies of the major specialties in the field of Microbiology. The program in microbiology also provides undergraduates a variety of research opportunities in different important microbiological problems. This major requires 203, 332, 334, 405, and 428 in addition to the requirements listed above and completion of 11 credits from the following microbiology electives: 398, 399, 400, 403, 407, 410, 424, 426, and 431.

REQUIREMENTS FOR THE MINOR

The department offers two minor programs:

1. *Professional Minor* which consists of 111, 112 and a minimum of 12 credits selected from the department's major courses numbered 200 or above. Individual course prerequisites must be met.

2. *Academic Minor* which consists of 111, 112 and a minimum of 12 credits selected from the department's courses numbered 200-395. Courses which are open to either majors or non-majors may be selected. Individual course prerequisites must be met.

NON-MAJOR COURSES (not for Biology Major credit)

201. Biology of Microbes. 3 cr.
Examination of microbes as to what they are, how they grow, how they may be controlled, what their relationships to other living things are, why and how some of them cause disease. Lecture.

202. Biology of Microbes Laboratory. 1 cr.
Illustrates methods of observation, growth, and identification of microbes as well as methods of controlling these organisms using sterilization techniques, disinfectants and antibiotics. Prerequisites: Biology 201 (or concurrent registration). Laboratory.

206. Environmental Biology. 3 cr.
This course deals with the biological background for understanding environmental problems and considers population, energy, land use and pollution, as well as legal aspects of the amelioration of environmental abuses. Lecture.

207. Anatomy and Physiology I. 3 cr.
Studies designed to provide students with a background in the areas of the human body structure and the mechanisms underlying normal body functions. Prerequisites: some previous exposure to introductory biology and chemistry is desirable. Lecture.

208 Anatomy and Physiology Laboratory I. 1 cr.
Laboratory includes examination of the micro and gross anatomy of the body, physiological experiments, and exposure to certain basic clinically important measurements and techniques. Prerequisites: 207 Anatomy and Physiology (or concurrent registration). Laboratory.

209. Anatomy and Physiology II. 2 cr.
Continuation of 207. Lecture.

210. Anatomy and Physiology Laboratory II.1 cr.
Continuation of 208. Laboratory.

220. Sex and Sexuality. 3 cr.
Consideration of sex and reproduction as universal biological functions and special emphasis on physiological and psychological basis of human sexuality. This course also aims to examine sexual functioning, sexual behavior, and sex therapy. Lecture.

230. Stress and Adaption. 3 cr.
A study of the biological effects of acute and chronic stress stimuli of various origins, and the neuro and hormonal regulations associated with the adaptation of stress. Lecture.

MAJOR COURSES

Except for 398 and 399, all courses for majors also are open to non-majors, providing that individual course prerequisites/background expectations are satisfied.

111, 112. General Biology. 4 cr. each
Introduction to the scientific study of life at the molecular, cellular, and organismal level. It involves consideration of relevant structure, function, development, reproduction, inheritance, evolution and ecology. This course provides the basic information and concepts necessary to understanding living systems, their activity and interrelationships. 111 is prerequisite to 112. Lecture and laboratory.

203. Introductory Microbiology. 4 cr.
Introduction to microorganisms, their morphology, metabolism, ecology, and cultural characteristics, with emphasis on their interaction with other organisms, including man. Principles of medical and health related aspects of microbiology, chemotherapy, industrial, agricultural, and marine micro-

biology are presented. Prerequisites: Biology 111, 112 and Organic Chemistry (or concurrent registration). Lecture and laboratory.

226. Genetics. 4 cr.

A study of the mechanisms of inheritance and their resulting effects on individuals and populations, including their implications in the life of man. Principles and details, methods and applications are illustrated with examples drawn from a wide range of species, from microorganisms to man. Prerequisites: 107, 108, or 111, 112. Lecture.

232. Vertebrate Macrostructure. 4 cr.

A comparative study of the gross structure of vertebrates and the relationship of that structure to function and evolution. Prerequisites: 111, 112. Lecture and laboratory.

238. Vertebrate Microstructure. 4 cr.

A study of tissue and organ structure and the relationship of that structure to function. Prerequisites: 111, 112 and 232 or permission of instructor. Lecture and laboratory.

244. Animal Development. 4 cr.

A comparative study of the morphological and physiological aspects of animal development emphasizing current experimental approaches. Prerequisites: 111, 112. Lectures and laboratory.

250. Plant Development. 4 cr.

Examines the unique features of representative types of plants, as revealed by interrelationship of form, function and morphogenesis. Prerequisites: Biology 111, 112. Lecture and laboratory.

306. Plant Physiology. 4 cr.

Varied studies of the growth requirements and regulatory mechanisms of important plant types, with emphasis upon environmental control. Prerequisites: Biology 111, 112. Lecture and laboratory.

312. Animal Physiology. 4 cr.

Examination of the physiological mechanisms of body function in animals, including consideration of the basic components of biological control systems and the manner in which various organ systems contribute to the maintenance of physiological homeostasis. Prerequisites: Biology 111, 112. Lecture and laboratory.

332. Immunology and Virology. 4 cr.

Introduction to viruses and immunology, with emphasis on host-parasite interactions and patterns of infectious diseases in populations. Prerequisites: 111, 112 and Organic Chemistry (or concurrent registration). Lecture and laboratory.

334. Medical Microbiology. 3 cr.

A systematic coverage of medical microbiology and its role in clinical medicine. Emphasis is based on current concepts of infectious disease and microbial genetics as it pertains to pathogenicity. Special attention is given to host-parasite interactions and to the interpretation and significance of laboratory findings

in the diagnosis and treatment of human microbial disease. Prerequisites: 111, 112; and 203 or equivalent or permission of the instructor. Lecture.

395. Special Topics. 1-3 cr.

Treatment of topics of current or special interest in biology. Lecture, laboratory or combinations.

398, 399. Undergraduate Research. 1, 2 cr. each

Opportunity for selected students to work in the laboratory on research problems under the direction of a faculty member. 398 is not a prerequisite to 399. Maximum of four credits. Registration by permission of instructor. Laboratory.

400. Biotechnology Laboratory Techniques. 3 cr.

A course to familiarize the student with a variety of biological and biochemical techniques including electrophoresis and chromatography of proteins and nucleic acids, radio-isotope techniques, and enzyme purification. These techniques are useful in such areas as medical and industrial biotechnology, science education and biological research. Prerequisites: Organic Chemistry or permission of the instructor. Lecture and laboratory.

401. Research Skills. 3 cr.

This course provides students who have an interest in research with exposure to a variety of important skills which are often inadequately covered in conventional courses. "Hands-on" experience will be offered in a number of useful laboratory techniques including: small animal surgery, usage of various types of physiological research equipment, and basic electronic and instrument troubleshooting. In addition the course will emphasize necessary methods for the design, evaluation, and presentation of research including: experimental design, applied statistical methods, computer usage, and the writing of scientific papers. Laboratory/lecture.

403. Cell and Electron Microscopy. 3 cr.

A basic course in cytology and electron microscopy of procaryotic and eukaryotic cells. The structure and development of cellular systems, their organelles, activities and interrelationships at various levels of organization are studied. Laboratory stresses techniques and methodology appropriate to investigations in the area. Lecture and laboratory.

405. Molecular Genetics. 3 cr.

A course providing the fundamentals to the rapidly growing field of molecular genetics. Emphasis is on gene structure and function in prokaryotic and eukaryotic cells. Areas to be discussed are DNA structure, template functions of DNA, mechanisms involved in DNA duplication, transcription, translation, nature of the genetic material, genetic fine structure and colinearity, genetic regulation including mutagenic aspects of pollutants, DNA repair and molecular aspects of the process of tumor induction. Restriction nucleases, plasmids, genetic engineering, gene cloning and *in vitro* recombination are described. Prerequisite: a course in microbiology. Lecture.

407. Recombinant DNA Techniques.**3 cr.**

Molecular cloning using Lambda phage, plasmids, and cosmids will be examined, as will subcloning using plasmids. Restriction site analysis and transposon mutagenesis of cloned DNA will be done. The student will carry out nucleic acid hybridization analysis using Southern and Northern blots. Nucleotide sequencing of cloned DNA using the Dideoxy method will be done followed by sequence analysis. Prerequisite: Biology 400/500 or permission of the instructor. Lecture and laboratory.

410. Cell Physiology.**3 cr.**

A study of cells with regard to: means of obtaining energy including respiration, fermentation, and photosynthesis; work done by the cell including biosynthesis, active transport, and cell movement; cell growth and differentiation; relationships of cell structure to these processes. Prerequisite: permission of the department. Not open to students with previous similar course. Lecture and laboratory.

424. Immunology.**3 cr.**

A course in the fundamentals of the rapidly expanding field of immunology with references to applications in basic research, medicine and public health. Topics covered include the mechanisms of induction and expression of the cellular and humoral responses, tolerance, immunoglobulins, antigen-antibody reactions, complement, immunogenetics, hypersensitivity, and immunologic disease. Laboratory exercises are designed to familiarize the student with a variety of basic immunologic techniques. Lecture and laboratory.

426. Pathogenic Microbiology.**3 cr.**

Study of the infectious agents of human disease with emphasis on host-parasite relationships, unique aspects of bacterial activities and organization, metabolism, regulation and genetics which contribute to pathogenicity, including identification of bacteria and principles of prevention, treatment, and laboratory diagnosis. Prerequisite: a course in microbiology or permission of the instructor. Lecture and laboratory.

427. Microbial Ecology.**3 cr.**

In this course the interaction of the microbe, primarily bacteria and blue-green algae, with each other, higher organisms and their abiotic environments at the molecular level will be explored. Topics such as photosynthesis, nutrient cycling of energy metabolism, and the role of microenvironments will be examined. Prerequisites: Organic Chemistry and a course in microbiology or permission of the instructor. Lecture and laboratory.

428. Microbial Physiology.**3 cr.**

A course examining microbial energy metabolism including organotrophy (aerobic and anaerobic respiration, fermentation), chemolithotrophy, and phototrophy. Selected topics of microbial biosynthesis, including cell envelope biosynthesis and

structure, will be covered. Regulation of energy metabolism and biosynthesis at the levels of gene expression and enzyme activity will be a major topic in this course. Prerequisites: Organic Chemistry and a course in microbiology or permission of the instructor. Lecture.

431. Biology of Fungi.**3 cr.**

Comparative structure, development and ultrastructural cytogenetics of fungi, including plant host-parasite interactions resulting in disease. Lecture and laboratory.

450. Comparative Vertebrate Physiology.**3 cr.**

Different phylogenetic groups of vertebrates living in diverse environments have evolved a wide variety of physiological and biochemical mechanisms to satisfy their similar basic biological needs. This course focuses on the diversity of physiological mechanisms which different animals employ, and the high level of physiological and biochemical adaptation and specialization found in animals with exceptional abilities. Prerequisite: a course in animal physiology. Lecture.

451. Comparative Vertebrate Physiology Laboratory.**1 cr.**

Prerequisite: a previous animal physiology or neurophysiology course (or concurrent registration), or permission of the instructor.

455. Mammalian Physiology.**3 cr.**

This course is intended to provide the student with an in-depth understanding of respiratory, cardiovascular, renal, and muscle physiology. After covering the normal function of each system, consideration is given to its response to severe stress and disease. Neurophysiology is covered to the extent that is required for an understanding of the control of the above systems. Prerequisite: a course in animal physiology.

456. Mammalian Physiology Laboratory.**1 cr.**

Prerequisite: a previous animal physiology or neurophysiology course (or concurrent registration), or permission of the instructor.

460. General Endocrinology.**3 cr.**

A survey of the endocrine system and neuroendocrine integration with particular reference to vertebrates. Lecture and laboratory.

464. Regulatory Physiology.**3 cr.**

A treatment of physiological and environmental regulations with emphasis on neuroendocrine integration and adaptation. Prerequisite: permission of the department. Not open to students with previous similar course. Lecture and laboratory.

468. Reproductive Physiology.**3 cr.**

A comparative study of reproductive processes in laboratory animals, domestic species, and man. Lecture.

472. Neurophysiology.**3 cr.**

Study of the cellular and molecular properties of

neurons including excitation, conduction, transmission, integration, sensory mechanisms, and neural processing using vertebrate and invertebrate examples. Prerequisite: a course in animal physiology. Lecture.

473. Neurophysiology: Laboratory Techniques.

2 cr.

An introductory laboratory course with emphasis on techniques employed to gather data from invertebrate and vertebrate sensory cells, interneurons, motor neurons, and muscle fibers. Students will learn intra- and extracellular recording methodology, neuron culture, and histochemical methods. Data acquisition is MacLab hardware and Apple Macintosh computer based. Completion of or concurrent registration in Biology 472 is required. Laboratory.

490. Experimental Embryology.

3 cr.

Studies on the mechanisms and dynamics of animal growth, differentiation, and development. Prerequisite: a course in embryology or permission of the instructor. Lecture and laboratory.

496. Ecology.

3 cr.

The goal is to provide an overall grasp of the principles and procedures underlying ecological thought. Interrelationships of living things with each other as well as the non-living components emphasize the need for interdisciplinary studies and quantitative data. Applicability to current human problems is discussed, such as waste disposal, pollution, food, fuel, agriculture and urbanization. Prerequisite: permission of the instructor. Lecture and laboratory.

498. Urban Ecology.

3 cr.

To provide integrated information about population, food, resources, pollution and the impact of technology. The case history method will be used as applicable to specific industrial metropolitan areas. Analysis of ecosystems with respect to matter and energy flows will be described. Prerequisite: a course in ecology or permission of instructor. Lecture.

DEPARTMENT OF CHEMISTRY

Chairman: Andrew J. Glaid, Ph.D.

Professors:

Andrew J. Glaid, Ph.D.

Jack Hausser, Ph.D.

Omar Steward, Ph.D.

Associate Professors:

David Seybert, Ph.D.

Paul Stein, Ph.D.

Assistant Professors:

Bruce Beaver, Ph.D.

Frank R. Gorga, Ph.D.

Shahed Khan, Ph.D.

Richard Norman, Ph.D.

Professors Emeriti:

Oscar Gawron, Ph.D.

Norman Li, Ph.D.

Kurt Schreiber, Ph.D.

Adjunct Professor

Heinz Machatzke, Ph.D.

Ted J. Weismann, Ph.D.

The Chemistry program is designed to provide the student with a fundamental background in chemistry and an understanding of the relationship of chemistry to the other sciences and disciplines. Elective courses and the opportunity to do undergraduate research allow the chemistry major to develop interests in a specialized area of chemistry, such as analytical, inorganic, organic, physical chemistry, and biochemistry.

Because of the fundamental nature of chemistry as a science, numerous opportunities for advanced study, as well as employment, are open to chemistry and biochemistry majors. A large percentage of students elect to continue their study in graduate programs in chemistry and related fields. Chemists and biochemists provide a core of personnel in pure and applied research, technical sales, technical libraries, management positions in the chemical and related industries, the space industry, education, the environmental sciences and the health professions, such as medicine, dentistry and veterinary medicine. The major in biochemistry centers around the core of basic chemistry courses while also providing advanced courses in biochemistry and electives in biology.

REQUIREMENTS FOR THE CHEMISTRY AND BIOCHEMISTRY MAJORS

Thirty-two semester hours are required. All students must take 121, 122, 221, 222, 321, 323, and 421; Mathematics 115, 116; Physics 201, 202 or 211, 212; Biology 111, 112; proficiency in German, Russian or French at the 202 or 212 level is required.

If a student takes 111, 112 and 121, 122 chemistry courses, the credits for the 111, 112 will not apply to the total required for the degree.

Chemistry Major: All students must take 322, 324, 422 and Mathematics 215.

Biochemistry Major: All students must take 401, 524. In addition, Chemistry 526 may be taken as an elective. Students planning to enter a graduate chemistry department should take 322, 324.

Students who intend to work in industry after graduation are strongly advised to take 548 Industrial Organic Chemistry.

To meet the American Chemical Society's requirements for Professional Certification, the Chemistry Major must elect two additional courses from the following: 401, 523, 524, 537, 538, 545, 546, 547, 548, 572; Mathematics 216 or 308; Biology 505; Pharmacy Sciences 539 and Physics 306; one of these must be

a laboratory course. This laboratory requirement can also be fulfilled with 490. The Biochemistry Major must take 322, 324, and 422 for certification.

REQUIREMENTS FOR THE MINORS

A minor in Chemistry consists of 12 credit hours beyond 121, 122. A minor in Biochemistry consists of 12 credits beyond 121, 122. Normally 205, 206 or 221, 222 along with 401, will constitute the Biochemistry minor.

111, 112. Principles of Chemistry. 4 cr. each

The course is divided into three segments, general, organic, and biochemistry. In the section devoted to general chemistry the laws of chemical behavior are developed with particular reference to the simple molecules of inanimate nature. The organic section deals primarily with the structural features of organic compounds, the chemistry of functional groups and the practical applications of organic compounds in the synthesis of polymers, of carbohydrates, lipids, proteins, nucleic acids, enzymes, vitamins, etc. Biochemistry is treated in terms of the digestion and metabolism of nutrients, the functions of enzymes in the metabolic process and the abnormal metabolic conditions that prevail in disease. Lecture, three hours; Recitation, one hour; Laboratory, two hours.

121, 122. General Chemistry.

The fundamental principles and concepts of chemistry are presented from the standpoint of atomic and molecular structure with illustrative examples from descriptive chemistry. The basic concepts of thermodynamics, chemical kinetics and equilibrium are introduced. The laboratory portion of the first semester illustrates physical and chemical properties in a quantitative manner, and the laboratory portion of the second semester illustrates the principle of ionic equilibria including qualitative inorganic analysis.

121. Lecture, three hours; Recitation, one hour; Laboratory, three hours. 4 cr.

122. Lecture, three hours; Recitation, one hour; Laboratory, six hours. 5 cr.

205, 206; 221, 222. Organic Chemistry. 4 cr. each.

The theoretical background is developed from the standpoint of the electronic structure of molecules and the accompanying energy considerations. The preparation and the chemical and physical (including spectral) properties of representative organic compounds are discussed in detail. Prerequisites: 121, 122. For 205, 206, Lecture, three hours; Recitation, one hour; Laboratory, four hours; and for 221, 222, Lecture, three hours; Recitation, one hour; Laboratory, eight hours.

321, 322. Physical Chemistry. 3 cr. each

A study of the structure and properties of the various states of matter, thermodynamics, thermo-

chemistry, kinetics and an introduction to chemical physics. Prerequisites: Physics 202 or 212, Chemistry 122, Mathematics 116. Lecture, four hours.

323, 324. Physical Chemistry Laboratory. 1 cr. each

Laboratory portion of Chemistry 321, 322, four hours.

401. Biochemistry. 4 cr.

An introduction to modern biochemistry at the molecular level. The course includes discussion of the structure and function of proteins, the mechanisms and regulation of enzyme catalysis, biomembrane structure and function, the structure and metabolism of carbohydrates, and the bioenergetics of ATP synthesis and utilization. Prerequisite: CHEM 206 or 222. Lecture, three hours; Laboratory, four hours.

421. Analytical Chemistry. 4 cr.

Theoretical and practical training in modern methods in chemical analysis with emphasis on instrumental methods. Prerequisite: 322. Lecture, three hours; Laboratory, eight hours.

422. Inorganic Chemistry. 4 cr.

A survey of the basic principles required for understanding inorganic chemistry including atomic and molecular structure, crystal structure, nonaqueous solvents and coordination compounds. Prerequisite: 322. Lecture, three hours; Laboratory, four hours.

490. Undergraduate Research. Maximum 2 cr.

Selected students work on a research problem under the direction of a staff member.

524. Biochemistry II. 3 cr.

This course is a continuation of CHEM 401. The course presents an overview of the metabolic transformations of fatty acids and the complex lipids, amino acids and the purine and pyrimidine nucleotides. The second half of the course offers a discussion of the molecular basis of genetics, including DNA and RNA metabolism, protein biosynthesis, and an introduction to the biochemical basis of recombinant DNA methodology. Prerequisite: CHEM 401.

DEPARTMENT OF CLASSICS

Chairperson:

Lawrence E. Gaichas, Ph.D.

Professors:

Jerry Clack, Ph.D.

Lawrence E. Gaichas, Ph.D.

Stephen T. Newmyer, Ph.D.

Assistant Professor:

Christine Renaud, Ph.D.

Lecturers:

Karen R. Hoover, M.A.

G. Kelly Marshall, M.A.

The study of Classics is a unique discipline. It is not the study of a language or literature alone. It is rather the investigation of one of the world's inspired civilizations, the Graeco-Roman world. As such, it offers the student insight into the broadest aspects of human existence set in a perspective distant enough from one's own to expand significantly the understanding and appreciation of humanity's aspirations, failures, and occasional triumphs.

REQUIREMENTS FOR THE MAJORS

The Department offers four major programs: Classical Latin, Classical Greek, Classical Languages (knowledge of both Latin and Greek required), and Classical Civilization (no knowledge of Greek/Latin required). Credits applied to any major must be at the 200 level or above.

1) The Classical Latin major requires at least eighteen credits in Latin as well as six credits in ancient history or ancient literature courses in English.

2) The Classical Greek major requires at least eighteen credits in Greek as well as six credits in ancient history or ancient literature courses in English.

3) The Classical Languages major requires at least twenty-four credits in Latin and Greek in addition to six credits of ancient history or ancient literature courses in English. The Survey of Sanskrit Literature (211-212) may be substituted for the credits of either Latin or Greek.

4) The Classical Civilization major is an individually designed program of twenty-four credits of ancient literature, history, art, and archeology. Students majoring in Classical Civilization create programs with the close advice and the approval of the Classics Department to fit their backgrounds, interests, and career objectives. Majors should formulate programs with balanced history and literature components. They are strongly encouraged to fulfill the College language requirement in either Latin or Greek. All courses in Greek or Latin at the 200 level or above apply to the Classical Civilization Major.

REQUIREMENTS FOR THE MINOR

The Department offers a minor in Latin (a minimum of 12 credits above the 100 level); a minor in Greek (a minimum of 12 credits above the 100 level); and a minor in Classical Civilization with concentrations in Greek Civilization, Roman Civilization, Ancient History, and Ancient Art and Literature (12 credits above the 100 level) with approval of the Department and advisors.

ORIGINAL LANGUAGE COURSES

101, 102. Elementary Classical

Latin. 4 cr. each
Study of the fundamentals of Latin grammar and syntax combined with occasional exercises in translation from Roman authors.

103, 104. Elementary Classical

Greek. 4 cr. each
Study of the fundamentals of Greek grammar and syntax combined with frequent exercises on translation from Greek authors.

111, 112. Basic Sanskrit.

3 cr. each
A study of the fundamentals of Sanskrit grammar and syntax combined with exercises in translation. Some previous foreign language experience is desirable.

113, 114. Elementary Ecclesiastical

Latin. 3 cr. each
Study of the fundamentals of Latin grammar and syntax as represented in Scripture and Church Fathers.

201 202. Intermediate Classical

Latin. 3 cr. each
Selections of major Latin author(s).

203, 204. Intermediate Classical

Greek 3 cr. each
Selections of major classical Greek author(s).

207, 208. Biblical and Patristic

Greek. 3 cr. each
Selections from biblical and Christian Greek literature.

211, 212. Survey of Sanskrit

Literature. 3 cr. each
Selected readings from major Sanskrit texts including the *Mahabharata*, *Hitopadesa*, *Kathasaritsagara*, *Manavadharmasutra*, *Rigveda*, and *Meghaduta*.

213, 214. Intermediate Ecclesiastical

Latin. 3 cr. each
Selections from Biblical and Christian Latin literature.

The following will be taught as Latin or Greek courses or, for those students who are qualified as combination Latin and Greek courses.

Each course will cover an individual author or group of authors or a genre. Each course may be repeated as long as a different author or work read.

301. Pre-Fifth Century.

3 cr.
The *Iliad*, the *Odyssey*, the *Homeric Hymns*, Hesiod Pindar, and Greek lyric poetry.

302. Fifth Century.

3 cr.
Herodotus, Thucydides, Aeschylus, Sophocles, Euripides, and Aristophanes.

303. Fourth Century.

3 cr.
Greek orators, Plato, Aristotle, Xenophon Menander.

304. Alexandrian Period.

3 cr.
Apollonius Rhodius, Theocritus, Callimachus and the lesser Alexandrian authors.

305. Roman Republic.

3 cr.
Plautus, Terence, Cicero, Lucretius, Catullus, Caesar, and Sallust.

306. Augustan Literature.

3 cr.
Livy, Vergil, Horace, Ovid, Propertius, and Tibullus.

- 307. Imperial Literature.** 3 cr.
Seneca, Lucan, Petronius, Martial, Plutarch, Tacitus, Juvenal, Pliny the Younger, Suetonius, Apuleius, and Lucian.
- 308. Post Classical Literature.** 3 cr.
Post classical, medieval, renaissance and neo-Latin authors.
- 309. Studies in Genre.** 3 cr.
Selected *genre* of Greek and/or Latin literature.
- 400. Independent Readings and Research.** Var. cr.

CLASSICS COURSES IN ENGLISH (NO GREEK OR LATIN REQUIRED)

- 121. General Etymology.** 3 cr.
A study of Greek and Latin roots to facilitate the comprehension of modern English as it is written by our acknowledged modern masters.
- 122. Etymology of Scientific Terms.** 3 cr.
Introduction to Greek and Latin elements of scientific terminology.
- 123. Classical Mythology.** 3 cr.
A presentation of the major myths of Greece and Rome with special attention to contemporary interpretations of myth and the influence of myth on art and literature.
- 206. Greek Art.** 3 cr.
A study of the architecture, sculpture, vase painting, and minor arts of the Greek world from Minoan to Hellenistic times. The student is introduced to the extensive vocabulary of Greek art which has been a continuing formative force in Western art.
- 207. Roman Art.** 3 cr.
An introduction to Roman innovations in architecture, sculpture, and painting. The background of Roman art in Etruscan, Greek, and Egyptian civilizations is investigated, and the impact of Roman art in formulating Christian Art, Renaissance Art and Neo-Classicism is analyzed.
- 219. Computer Use in the Humanities.** 3 cr.
A survey of non-scientific applications of computers in the humanities.
- 230. Ancient Theatre.** 3 cr.
An examination of the origins and development of ancient tragedy and comedy. Readings from the works of Aeschylus, Sophocles, Euripides, Aristophanes Menander, Plautus, Terence, and Seneca.
- 231. Ancient Epic.** 3 cr.
A study of ancient epic literature with particular attention to the techniques of oral and literary composition. Readings from the works of Homer, Apollonius of Rhodes, Vergil, and Lucan.
- 232. Ancient Novel and Romance.** 3 cr.
Survey of Greek and Roman prose fiction with special emphasis on the nature and development on narrative techniques. Readings from Homer, Herodotus, Xenophon, Apollonius of Rhodes, the Greek Romances, Lucian, Petronius, and Apuleius.
- 233. Ancient Satire.** 3 cr.
Investigation of the satirical element in classical literature with special reference to the writings of Lucian, Lucilius, Horace, Persius, Martial, and Juvenal.
- 242. Ancient Law.** 3 cr.
An historical survey, including the contributions of the Babylonians and the Greeks and of the Romans to the development of law between c. 500 B.C. and A.D. 500.
- 244. History of Ancient Medicine.** 3 cr.
Examination of the most significant medical theories and practices in the period from the Egyptian temple physicians to the doctors of the Roman Empire. Special attention will be given to Hippocrates and Galen.
- 245. Greek History.** 3 cr.
An examination of the development of Greek history and culture from earliest times up to the death of Alexander of Macedon.
- 246. Hellenistic History.** 3 cr.
A survey of Mediterranean history from the death of Alexander until the accession of Octavian and the establishment of the Roman Principate.
- 247. History of the Roman Principate.** 3 cr.
Study of the consolidation of the Roman imperial structure from Augustus to the death of Commodus.
- 248. History of the Late Roman Empire.** 3 cr.
Examination of Roman history from the accession of Severus to the death of Justinian.
- 249. Egyptian Civilization.** 3 cr.
A survey of Egyptian history and culture from the pre-dynastic period to the establishment of Roman rule in Egypt. Special attention will be given to the attistic, literary, and religious achievements of Egypt.
- 250. Classical Archaeology.** 3 cr.
A study of the archaeological discovery of classical civilization from the Greek Bronze Age through the Roman Empire. An introduction to the techniques of archaeological investigation. (Does not count for History.)
- 260. The Classical Tradition in America.** 3 cr.
A study of the influences of Graeco-Roman civilization on American cultural life.
- 261. Contemporary Literature and Classics.** 3 cr.
An investigation of the influence of ancient myth on 20th century French, German, Italian, English and American Literature.
- 300. Seminar.** 3 cr.
Topics variable.

DEPARTMENT OF COMMUNICATION

Chairperson:

Nancy L. Harper, Ph.D.

Professors:

Nancy L. Harper, Ph.D.

Associate Professors:

Robert Bellamy, Ph.D.

D. Clark Edwards, Ph.D.

Margaret J. Patterson, M.A.

Eva Robotti, M.A.

Richard Thames, Ph.D.

Frank Thornton, M.F.A.

Paul J. Traudt, Ph.D.

Assistant Professors:

Jason Berger, Ph.D.

James J. Johnston, M.A.

H. Allen White, Ph.D.

Sheryl L. Williams, M.A.

Lecturers:

Edward Barr, M.Ed.

Jane Beckwith, M.F.A.

Donald Burke, M.B.A.

Sondra Chester, M.A.

Lloyd Corder, Ph.D.

Ronald Cruikshank, Ph.D.

John Erwin, M.F.A.

Kenneth Goodman, Ph.D.

John Hachtel, B.A.

Daniel Siemasko, M.A.

Rick Thurman, B.A.

Robert Toothman, M.B.A.

Victor Vrabel, B.A.

Patrick Wood, M.A.

Professors Emeriti:

Paul Krakowski, M.A.

Cornelius S. McCarthy, Ed.M.

UNDERGRADUATE DEGREES AVAILABLE

Advertising, Broadcast Journalism, Communication, Corporate Communication* (also available in the University's evening program), *Media Performance, Media Production, Media Management/Operations, Organizational Communication, Print Journalism, and Public Relations.*

* (Includes "Academic Preparation" for graduate study in Communication or a "Preprofessional" program such as pre-law or "Other," a specially tailored program such as health communication.)

DEFINITION OF THE DISCIPLINE

Communication is an ancient discipline. The traditional focus has been on the study of how people come to know, to believe, and to act. Talking and writing as a way of knowing, as a way of establishing and clarifying belief, and as a way of acting upon

the environment in order to bring about change or to reinforce stability, in other words, language-in-use ("pragmatics"), has been the unit of study. The discipline traces its roots to Socrates through his student, Plato, and Plato's student, Aristotle. Aristotle's *Rhetoric*, written in the 4th century B.C., established the rationale for the study of communication:

To a certain extent all people attempt to discuss statements and to maintain them . . . Ordinary people do this either at random or through practice and education. Both ways being possible, the subject can plainly be handled systematically, for it is possible to inquire the reason why some succeed through practice and others spontaneously; and every one will at once agree that such an inquiry is the function of a science (or "art") (1345a 3-11).

Twentieth-century study of communication continues to pursue the generic questions set forth in ancient Greek scholarship. The modes of communication have increased in number and contemporary communication studies attend to these modes, e.g., oral communication which occurs in interpersonal situations where a few converse and mass communication situations where a single speaker faces a large audience or where speakers' messages are transmitted through television, film, etc. Written communication, likewise an object of study, occurs in interpersonal situations, through a friendly letter, and in mass situations, through newspapers, magazines, etc.

In addition, the number and kinds of careers pursued by professional communicators and studied in departments of communication has expanded from politics and law to areas such as television production and performance, organizational development, corporate media, and of course advertising, public relations, news reporting and writing.

DEPARTMENT OBJECTIVES

One objective of the Communication Department, like all the liberal arts and sciences, is to enhance students' personal and social lives by contributing to their liberal education: the Department does so by approaching the generic questions — How do we come to know? to believe? and to act? — through study of communication as it occurs within a variety of media and situations. The Department also works to help students prepare for careers as professional communicators.

REQUIREMENTS FOR THE MAJOR

A minimum of 30 credits in communication is required. (To encourage a broad liberal education, the maximum allowable credits in the department is 45.) Students design, in consultation with their advisors, a Plan of Study that is **coherent** and **balanced**. (The Plan of Study form is available from faculty advisors.)

"Coherence" is provided by following the requirements of one of the degree programs listed below or creating a personalized major tailored to the students' interests, abilities, and post-graduate or career aspirations.

"Balance" is achieved by taking a range of courses representing different perspectives, levels, and types. In order to facilitate this goal, the courses in the department have been organized into four basic groups: Theory/Media, Theory/Nonmedia, Applied/Media, and Applied/Nonmedia. Students are required to take at least one course from each of these four areas. Courses are also categorized as either "Advanced" (number 300 - 499) or "Introductory" (numbered 100 - 299). Students must take at least two introductory and two advanced courses. Courses may be double counted, e.g., a single course may count both as Theory/Media and as advanced.

In addition to the above requirements, students are normally expected to take at least two introductory courses: 101 Process of Communication and 171 Dynamics of Mass Communication. Exceptions based on prior learning or experience may be granted by the Department Chair. A third introductory course, 111 Introduction to Media Arts, is required for the degrees in media, in broadcasting, advertising, and public relations. Students are also encouraged to take at least one of the senior seminars and an internship.

SPECIFIC REQUIREMENTS BY DEGREE:

Advertising: 111, 271, 333, 433, 436, 475

Broadcast Journalism: 111, 271, 367, 467, 476, 494

Communication — Academic Preparation: 457, 475, 478, 494

For "Preprofessional" and "Other" see advisor.
Corporate Communication: 281 or 432, 304, 306, 333, 456, 475

Media Management/Operations: 111, 368, 369, 370, 475

Media Performance: 111, 251, 271, 351, 355

Media Production: 111, 145 and 146 or 182 and 282 or 240 and 340, 215, 445

Organizational Communication: 454, 455, 456, 475

Print Journalism: 271, 371, 375, 476, 494

Public Relations: 111, 271, 333, 430, 436, 475

REQUIREMENTS FOR THE MINOR

A minimum of 18 credits, including at least one course from each of the four course groupings (see MAJOR above), and at least one introductory and one advanced course. A minor in a particular degree program (e.g., advertising) must include three of the four or five required courses in that major.

101. Process of Communication. 3 cr.
Examines how human beings communicate beliefs. As an introduction to communication and persuasion, the course asks three basic questions: How do

we come to believe what we do? How do we maintain our beliefs? How can we be persuaded to change them? Answers vary depending upon the perspective taken. The course will investigate the psychological, the physiological, the sociological, the rational, and the religious perspectives for their insights into interpersonal and organizational persuasion, brainwashing, hypnosis, advertising, propaganda, mass movements, revolutions, and cults. Lecture supplemented by films and text. **Required for all communication majors.**

102. Public Speaking. 3 cr.
Develops those communicative skills necessary to critically analyze verbal discourse and to perform effectively in public speaking situations which confront the educated person. Students begin with a non-graded presentation and proceed to develop and present informative and persuasive speeches/presentations. Individual coaching sessions for the purpose of developing good presentation strategies are required during class time.

103. Workshop: Relational & Interpersonal Communication. 3 cr.
Develops verbal communication skills and abilities in face-to-face relationships. The emphasis is on establishing: (1) a positive attitude toward yourself, (2) a positive attitude toward others, and (3) a positive attitude towards communication situations.

111. Introduction to Media Arts. 3 cr.
Familiarizes students with equipment applications and technology, and provides basic hands-on experience in media production (audio, photography, video). Theory and applications of porta-pak video, studio video, radio-audio, and photography are explored. **Course is prerequisite for all upper level media production courses. Required for communication majors in all media-related areas of concentration, in broadcasting and in public relations and advertising.**

120. Acquisition of Communicative Behavior. 3 cr.
Focuses on the acquisition of verbal and nonverbal communication from infancy through childhood with emphasis on the comparative analysis of theories of communication development. Examines physical, neurological, psychological, and social bases of "language." Discusses socio-linguistic differences with reference to racial and regional variations.

122. Phonetics. 3 cr.
Approaches the English language through the study and production of speech sounds as systematized by the International Phonetic Association. The two vital questions, "What is good speech?" and "How may one acquire it" are answered in this course.

145. Audio Production I (same as Music 145) 3 cr.
Investigates the types of recording equipment, microphones, and sound systems needed for production plus the skills of recording, mixing, and editing.

146. Audio Production II (same as Music 146) 3 cr.
Investigates advanced aspects of audio production. Taught off-campus in a professional multi-track studio. Prerequisite: 146.

151. Voice and Diction. 3 cr.
Trains students in the voice and diction skills required of professionals in the media and elsewhere. Some phonetics. Breath control. Volume control. Pitch control. Vocal stress — melody — expressiveness.

171. Dynamics of Mass Communication. 3 cr.
Provides an introduction to the history, economics, politics, regulation, and social impact of the mass media — with special emphasis on television. **Required for all Communication Majors.**

182. Basic Photography. 3 cr.
Introduces students to the use of photography as a medium of communication. Teaches the fundamentals of camera work, light, filters, film developing, and printing. Students must supply their own 35 mm adjustable camera, film and printing paper. Lecture/Laboratory. **Required Prerequisite: "B" grade or better in 111 Intro to Media Arts, or permission of course supervisor.**

203. Workshop: Group & Organizational Communication. 3 cr.
Develops verbal and nonverbal skills and abilities in group and organizational relationships. The emphasis is on leadership and membership in problem-solving and decision-making groups and organizations through social and task behaviors.

207. Journalistic Writing. 3 cr.
Teaches the fundamentals of news reporting and writing for the print and broadcast media. The course will include instruction in objective news coverage and feature writing, interviewing and research techniques, beat coverage, and story organization. **Open to Continuing Education Certificate students only; does not count toward the 30 credits required for a major in communication.**

208. Workshop: Nonverbal Communication. 3 cr.
Develops nonverbal communication skills and abilities in human relationships. The emphasis is on learning "another language" in order to become a more effective communicator by establishing a positive relationship between our verbal language and nonverbal language.

210. Media and Society. 3 cr.
This course surveys the literature examining the relationship between the mass media and selected audiences. Students will be introduced to the major theories characterizing this relationship. Topics will include media portrayals of violence, pro-social values, consumer socialization, politics, agenda setting, children, women, minorities, etc.

215. Media Design and Scriptwriting. 3 cr.
Introduces the theory, process, and techniques of designing and writing for corporate media:

employee communication, training, and marketing promotion. Planning for and writing corporate video scripts — skills transferrable to the development of other media forms.

240. Video Production: Studio. 3 cr.
Introduces fundamentals of "live" television studio production techniques, coupling basic technical and aesthetic considerations. Student group and individual productions. **Required Prerequisite: "B" grade or better in 111 Intro to Media Arts, or permission of course supervisor.**

251. News Analysis. 3 cr.
Investigates current issues and the world's trouble spots, considering histories, economies, ethnic differences and enmities, religious differences, political systems — issues which have to be understood in order to give the reader/listener/viewer an intelligent rendering of the news.

271. Basic Reporting and Writing I. 3 cr.
Teaches the fundamentals of news reporting and writing. Students practice in laboratory exercises and by covering beats and special events outside of class. Computers are used. Typing ability required.

281. Visual Communication. 3 cr.
Introduces students to the theories of visual perception and their practical application to the production of visual materials. Topics will include framing, dominance, gestalt theory, additive and subtractive theories of color, symmetry, etc. As a result of this course you should know and be able to apply theories of visual perception to production media.

282. Color Photography. 3 cr.
Investigates 35 mm slide photography and its application to audio visual production. Each student will learn to develop and mount color slides as well as produce a slide show from initial proposal to final script. Each student will also be given an introduction to color printing. **Prerequisites: 111 and 182.**

285. Television Criticism. 3 cr.
This is a genre criticism course from both journalistic and academic perspectives. Genre, socio-cultural and close-textual approaches will be used. Genre will include: soap operas, situation comedies, crime-dramas, sports, children's programming, game shows, religious television, etc.

304. Persuasion. 3 cr.
Studies the profound practical implications of persuasion as the keynote of public decision-making and as one of the most important choices in both public and private life. Includes practice in persuasive writing and speaking. Especially recommended for students of advertising, marketing, pre-law, and public relations.

305. Evidence. cr.
Designed for students of exposition, discussion, persuasion, and argumentation who must support assertions with evidence and defend judgments with probable cause in the many aspects of public

communication. Especially recommended for students in advertising, public relations, pre-law, print journalism.

306. Business and Professional Communication.

3 cr.

Focuses on one-to-one (e.g., interviews), group (e.g., problem-solving, planning), and individual (e.g., formal communication proposals) communication in business, government, industrial, and not-for-profit or service organizations. Students give individual presentations, compose a resume, interview professionals, and report to the class a variety of formats. Memo writing is used to communicate student peer and self-evaluations on all assignments. **Prerequisite:** junior standing.

333. Advertising and PR Campaigns.

3 cr.

Uses case study method to develop an understanding of the principles and practices of contemporary advertising and public relations. Provides an overview of the similarities and differences of the advertising and public relations functions in agencies, businesses, and not-for-profit organizations. Successful and unsuccessful advertising and PR campaigns are illustrated through analysis of case studies.

340. Video Production: EFP.

3 cr.

Introduces electronic news gathering and electronic fields production as remote location video production techniques. Includes focus on documentary production. Covers pre-production planning and design, on-location production, and post-production editing into final form. Out-of-class production time required. **Prerequisite:** "B" grade or better in 111 and 240 or permission of course supervisor.

351. Radio and Television Announcing.

3 cr.

Applies principles of effective speaking to broadcasting. Includes proofing and preparing materials for on-the-air performance, reading aloud from scripts and teleprompter, pacing for clarity and effectiveness, developing tonal variety, establishing an image of friendly authority for broadcasting the news/sports/weather and commercials. The course relies on lab work.

355. Acting for the Camera.

3 cr.

An introduction to the art of acting, beginning with characterizations and applying whatever performing techniques are required for the role, e.g., dialects, bodily control, associative memory, etc. Scenes will be studied first in traditional live theatre approach, then adapted to the studio setting.

367. Radio-TV: Principles & Writing.

3 cr.

Studies and applies writing principles and practices for radio and television in a lecture-laboratory course. Topics include copywriting, continuity, and news casts. **Prerequisites:** 111 and 271 or department approval.

368. Broadcast and Cable Management.

3 cr.

This course introduces students to the basic manage-

ment operations of a contemporary broadcast or cable facility. Operating divisions including sales, programming, promotion, research and finance will be covered. Current regulatory policies as they impact on day-to-day operations will be included.

Recommended before student takes 368, 396, 370, 437, or 475.

369. Broadcast and Cable Programming.

3 cr.

This course introduces the students to various programming strategies in the electronic media. Topics will include: role of the programmer; ratings research; television network-affiliate relations; independent television; public television; cable systems; commercial radio; public radio; syndication; "new" programming outlets (e.g., DBS, LPTV); etc. **Prerequisite:** 368 or permission of instructor.

370. Broadcast and Cable Promotion.

3 cr.

Using marketing theory, broadcasting principles and promotion techniques, the student will develop the ability to write and produce effective on-air and external communications for a broadcast cause. There will be an examination of standard promotion practices, unique strategies, and the rules and regulations restricting gimmicks, lotteries, and co-ops attendant to promotional campaigns. The student will prepare an entire campaign after assessment of an assigned station's image and goals. The student will utilize in-house, purchased and/or traded radio, and television spots in conjunction with print and public relations devices to persuade/educate the viewer/listener as to the attraction of the product. **Prerequisite:** 368.

371. Basic Reporting and Writing II.

3 cr.

Teaches advanced writing of spot news stories, such as business, government, and courts, and introduces students to in-depth, analytical coverage of public issues. Applies practice in off-campus stories and laboratory exercises. Computers used. **Prerequisite:** 271.

375. Editing for Print.

3 cr.

Teaches editing and presenting the written word for the print media in a lecture-lab course. Style, headlines, and layout covered. Computer laboratory experience required. **Prerequisite:** 271 or department approval.

382. Advanced Black and White Photography.

3 cr.

The course is an investigation of advanced black and white photography techniques. Included will be a refinement of dark room skills with an introduction to high contrast materials and studio lighting techniques. **Prerequisite:** 111 and 182.

402. Argumentation and Debate.

3 cr.

Applies the principles and methods of critical deliberation to a significant contemporary social issue. Emphasizes advocating defending, and refuting a proposition of policy, evidence and reasoning, debate form, rebuttal, types of debate. **Recommended:** 304 or permission of instructor.

- 404. Intercultural Communication.** 3 cr.
Investigates similarities and differences between perceptions of reality held by cultural groups and the ways in which such perceptions affect the communication process. Theory is presented and then applied to specific examples of orientation training for international executives.
- 419/519. Mass Communication & Everyday Life.** 3 cr.
Course examines theories and research in the field of mass media (notably television) and society. Topics include: social learning theory and mass media; prosocial television; cultivation theory and news, politics, and agenda setting; functions and effects of pornography; mass media depictions of women and minorities.
- 421/521. Sex Roles and Communication.** 3 cr.
Examines research on differences in male and female communication in a variety of contexts, ranging from personal to social to work relationships. Special emphasis is given to formal and informal relationships in complex organizations.
- 427/527. Communication Management.** 3 cr.
Introduces the communication professional to the principles of management. Planning, budgeting, financing, organizing, actuating and controlling are discussed. The course contributes to the formulation of execution of effective communication policy for all types of institutions.
- 430. Public Relations Practices.** 3 cr.
Provides students with the opportunity to develop writing skills for various public relations audiences, including the media. The objective is to teach students how to use various writing techniques to persuade people to respond to a specific message. They will learn how to analyze the audience and then create the right message, using the proper language. **Prerequisite:** 333.
- 432/532. Print Production and Graphic Design.** 3 cr.
Examines the print communication of business, industry, professional, and non-profit organizations. Students practice the writing, designing, and editing of brochures, newsletters, annual reports, magazines, and other internal and external publications. **Prerequisite:** 271 or graduate standing.
- 433. Advertising Practices.** 3 cr.
Teaches copy writing and design of a marketing plan for consumer advertising. Major campaign compiled. Lecture-laboratory. **Prerequisite:** 333.
- 436/536. Marketing Communication.** 3 cr.
Covers the principles and practices of marketing communication. Emphasizes promotion area of the marketing mix including advertising, sales promotion, public relations and personal selling.
- 437. Broadcast Sales.** 3 cr.
This course explains the multi-faceted dimension of sales within contemporary business environments

— with special emphasis on the tools for broadcast sales. Topics include researching and prospecting clients, phases in the selling process, developing and maintaining rapport with clients, closing the deal, etc. Focus is on radio specifically, but content is generalized to television, media advertising, and marketing.

- 441. Interactive Video.** 3 cr.
Investigates interactive video as a medium that goes beyond linear media. Examines its applicability in industrial and educational environments. Both computer authoring systems and authoring language are used. **Prerequisites:** 215 and 241.
- 454/554. Theory & Practice of Interpersonal Communication.** 3 cr.
Studies communication between individuals in the context of relationships such as friendship, marriage, work, etc. Topics include phases of relationship development, disclosure, symmetry and asymmetry in relationships, etc.
- 455/555. Theory and Practice of Group Communication.** 3 cr.
Studies communication processes in small groups. Topics include: group formation, structure, decision-making, norms and roles, status structures, group-think, interaction models, conflict, bargaining and negotiation, and research methods.
- 456. Theory & Practice of Organizational Communication.** 3 cr.
Investigates the scope and function of communication processes in organizations. Topics covered include: organizational theory, Japanese management styles, supervisor/subordinate communication patterns, managerial styles, informal communication, network analysis, organizational climate and culture, motivation and satisfaction, and communication audits.
- 457/557. Communication, Science, and Revolution.** 3 cr.
Examines how beliefs built upon assumptions common to science and revolution influenced the "modern" world's understanding of communication. Develops more completely and philosophically the rhetorical perspective introduced in "Process of Communication" by applying that particular perspective to contemporary systems of belief. Covers the rhetorical-communication theories of the Sophists, Plato, Aristotle, Weaver, Burke, Grassi, and others.
- 458/558. Communication and Imagination.** 3 cr.
Examines how the triumph of beliefs dominated by "imagination" over beliefs dominated by "science" has changed our understanding of communication. Rhetorically analyzes science-fiction/fantasy (the literature combining science and imagination) for insights into the shift in commonplace assumptions about reality which characterize the "modern" and the "post-modern" worldviews. Covers the

rhetoical-communication theories of the Sophists, Plato, Aristotle, Bacon, Ramus, Burke, Perlman, Ong, and Hudson.

467. Advanced Writing for Radio and Television. 3 cr.

Teaches writing for radio and television in a lecture-laboratory course. Covers scripting for special types of programs, such as documentaries, editorials, and panel shows. Public Service Announcements, traffic continuity, commercials, and promotion-publicity are the main core of the course. **Prerequisite:** 111, 271, and 367.

471. Advanced Public Affairs Reporting. 3 cr. Teaches interpretive reporting of urban affairs in a lecture-laboratory course. Analysis major political, economic and social developments that have local news interest and significance. Includes guests and field trips. **Prerequisites:** 271, 371 or permission.

472. Writing Editorials, Critiques, and Reviews. 3 cr.

Studies the basic principles of reviewing art forms (literature, movies, theatre, etc.) and writing thoughtful, informative editorials on local, national and world affairs. This course is designed for the print or electronic communicator who wishes to develop a specialization, but it is intended for generalists as well. **Prerequisite:** 271.

473/573. Feature Writing. 3 cr.

Teaches feature article writing for the general and specialized print publication in a lecture-workshop course. Includes writing for internal and external corporate publications, as well as query writing and marketing for the free-lance writer and feature writing for the news reporter. **Prerequisite:** 271 or graduate standing.

474. International Mass Communication. 3 cr. Studies world news systems and analyzes their roles as instruments of world understanding. Compares U.S.-foreign systems, including newspapers, broadcasting, magazines, and wire services.

475/575. Communication Research Methods. 3 cr. This course provides training in audience and marketing research and corresponding methods. Topics include qualitative and quantitative research approaches, including focus-group interviews, sampling, survey design and statistics. Hands-on computer applications for statistical analyses are included. Students will conduct a survey complete with data entry and analysis.

476. Communication Law. 3 cr.

Examines the legal rights, privileges, ethics and responsibilities of the mass media — electronic and print. Covered topics include the historical foundations of media law; First Amendment; transportation/communications "tradeoff;" distinctions between law, regulation, and policy; obscenity/indecency, libel, access, copyright, and the impact of evolving media technology.

478/578. History of Communication. 3 cr.

Analyzes major social influences affecting communication theory and practice from classical to contemporary times. Theorists emphasized include Plato, Aristotle, Isocrates, Cicero, Augustine, John of Salisbury, Bacon, Campbell, Whately, Kames, Watzlawick, and Berger. Theories are applied to interpersonal, organizational, and group communication and to print and broadcast journalism.

480. Practicum in Journalism. 1 cr.

Designed for all persons working for a college newspaper, this course conducts formal critiques of *The Duquesne Duke* and other college media. Areas of criticism range from the technical production of a collegiate newspaper to journalistic philosophy. **Prerequisite:** permission of instructor. May be repeated for up to 6 credits; maximum of 1 credit per semester, and maximum of 3 credits toward the degree in communication; up to 3 additional credits may count as electives. **NOTE: Total credits for 480 + 481 + 496 + 497 + 498 cannot exceed 9 credits toward the minimum 30 credits required for the major. Students may take more than a total of 9 credits, but the extra credits will count as electives.**

481. Practicum in Forensics. 1 cr.

Designed for all persons on the University Debate Team and/or in competitive Individual Events. Meeting times will be used for critiques of practice performances, sharing of evidence, construction and analysis of arguments and interpretations. **Prerequisite:** permission of instructor. May be repeated for up to 6 credits; maximum of 1 credit per semester and maximum of 3 credits toward the degree in communication; up to 3 additional credits may count as electives. **NOTE: Total credits for 480 + 481 + 496 + 497 + 498 cannot exceed 9 credits toward the minimum 30 credits required for the major. Students may take more than a total of 9 credits, but the extra credits will count as electives.**

492. Seminar: Current Issues in Communication. 3 cr.

Discusses professional problems and advancements in communication. Specific topics vary. Open to majors only.

493. Seminar: Multi-Media Production. 3 cr.

Provide practicum based experience to advanced production students. Topics and assignments vary. The objective of the course is to provide professional-level production environment to students nearing graduation.

494. Seminar: Communication Ethics. 3 cr.

Analyzes ethical issues in print and broadcast news reporting, public relations, advertising, organizational and interpersonal communication. Issues will be examined in light of historic and current practice, as well as traditional and modern ethical and rhetorical theory. **Strongly recommended for all communication majors.**

496. Directed Readings. 1-6 cr.
Offers the opportunity for students and faculty to conduct in-depth study of a topic not covered, or covered only briefly, in other departmental courses.

In order to enroll in Directed Readings, students must first **secure approval from the faculty member** best qualified to guide their study. Approval requires (1) discussing with the faculty member his or her availability and level of interest, (2) submitting to the faculty member a written proposal for the project, including justification for pursuing the topic outside of scheduled courses, a statement of goals and proposal for evaluation procedures (exams, papers, projects), and a preliminary bibliography on the topic, (3) obtaining the faculty member's signature on the approval form, (4) submitting the signed proposal to the Department Chair for her signature approving the arrangements proposed. May be repeated for up to 6 credits. **NOTE: Total credits for 480 + 481 + 496 + 497 + 498 cannot exceed 9 credits toward the minimum 30 credits required for the major. Students may take more than a total of 9 credits, but the extra credits will count as electives.**

497. Special Projects. 1-6 cr.
Students in this course prepare print or electronic products (e.g., brochures, slide shows, video programs, etc.) commissioned by University or community organizations. In order to be admitted to the course you must (1) find a client — preferably a University organization or not-for-profit agency — who will pay production costs, (2) gather a group of students who have the skills necessary to do the production, (3) audition or present a portfolio to the instructor, and (4) be recommended by one or more faculty members in the area of your expertise (e.g., writing, graphics video, etc.). Class activities will focus on the projects, beginning with analysis of the client's goals and continuing through audience analysis, message design, production, and evaluation. **NOTE: Total credits for 480 + 481 + 496 + 497 + 498 cannot exceed 9 credits toward the minimum 30 credits required for the major. Students may take more than a total of 9 credits, but the extra credits will count as electives.**

498. Internship. 3-6 cr.
Provides a supervised observation/experience program for study (assignment and performance) in areas such as media, marketing, editorial, human resources, and public relations. Most placements are in the Pittsburgh/Western Pennsylvania area. Requirements: 60 credits with a minimum of 9 credits in the internship area, and an overall Q.P.A. of 2.5 or better: written recommendation from relevant faculty member(s): open to majors only. May be taken for 3 or 6 credits. No more than 6 credits of internship may be taken to count toward the minimum 30 credits required for the major. Prerequisite: department approval. **NOTE: Total credits for 480 + 481 + 496 + 497 + 498 cannot exceed 9 credits**

toward the minimum 30 credits required for the major. Students may take more than 9 credits, but the extra credits will count as electives.

DEPARTMENT OF ECONOMICS

Chairperson:

Richard E. Bond, Ph.D.

Professor Emeritus:

Geza Grosschmid, J.U.D.

Professors:

Stanley Bober, Ph.D.

Kurt Rethwisch, Ph.D.

William Sher, Ph.D.

Associate Professors:

Richard Bond, Ph.D.

Lee Glick, Ph.D.

Marshall Levinson, M.A.

Matthew Marlin, Ph.D.

The purpose of the Economics program is to enable the student to understand the workings of the U.S. and International economy and to develop the student's capacity to think analytically about a wide range of economic and social problems. An ability to think analytically and to write concisely are stressed in courses in Economics. A grasp of the methodology of Economics enhances the student's ability to think systematically about issues that arise everyday in the news media. The study of Economics is indispensable to anyone interested in government, politics, or international affairs.

A major in Economics serves as a solid preparation for Law School or for MBA programs. It is not a narrowly vocational major. However, the general background, which the student acquires, prepares him or her for career opportunities in strategic planning, government, banking, etc.

REQUIREMENTS FOR THE MAJOR

Twenty-four credit hours are required for a major in Economics. These credits must include Principles of Economics 221 and 222, National Income Analysis 321, and Price and Production 322. The Extradepartmental requirement is Math 125. Additional courses that may usefully supplement a major in Economics depend heavily on the objectives and vocational interest of the student. Students who choose Economics as a major should consult with the chairperson of the Economics Department for advisement.

REQUIREMENTS FOR THE MINOR

Eighteen credit hours are required for a minor in Economics. These credits must include Principles 221 and 222. It is strongly recommended that students having Economics as a minor consult with the chairperson of the Economics Department for advisement.

Course Descriptions and faculty listing are provided in the School of Business and Administration Section of this Catalog on Pages 106-107.

DEPARTMENT OF ENGLISH

Chairperson:

Joseph J. Keenan, Jr., Ph.D.

Professors:

Ralph C. Boettcher, Ph.D.

Samuel J. Hazo, Ph.D.

Joseph J. Keenan

Albert C. Labriola, Ph.D.

G. Foster Provost, Jr., Ph.D., Emeritus

Wallace S. Watson, Ph.D.

Frank T. Zbozny, Ph.D.

Associate Professors:

Bernard F. Beranek, Ph.D.

Joseph J. Keenan, Jr., Ph.D.

Frederick Newberry, Ph.D.

Jerome L. Niedermeier, Ph.D.

Constance Deucher Ramirez, Ph.D.

John W. Smeltz, Ph.D.

Samuel J. Tindall, Jr., Ph.D.

Daniel Paul Watkins, Ph.D.

Assistant Professors:

George Richard Benzinger, Jr., M.A.

John Kenneth Hanes, M.A.

Stuart Kurland, Ph.D.

Linda A. Taylor, Ph.D.

The chief purpose of the English program is to develop the student's powers to think critically about his/her life. To this end the Department's curriculum unites intensive and critical reading in a broad range of our literary heritage with close attention to the presentation of ideas in writing. Attention is also given to oral expression of ideas by means of dialogue between professor and student. Not only is the degree in English an excellent preparation for law school and for graduate work in English, education, and library science, it also provides the liberal preparation which is sought by the business world for such areas as personnel, advertising, and management.

Prerequisites—Thinking and Writing Across the Curriculum 101 (or its equivalent) is a prerequisite for admission to Imaginative Literature and Critical Writing 102; Imaginative Literature and Critical Writing 102 (or its equivalent) is a prerequisite for admission to all courses offered by the department.

The English Department further advises that two 200 level courses should be taken before the student attempts any 300 or 400 level course (except for 308, 460, 462 and 464).

REQUIREMENTS FOR THE MAJOR

The major is an individually-designed program of 24 hours of English Department courses above the 100 level. Each English major, with the close advice and approval of a member of the English faculty, designs a program to fit his/her background, interest, and career objectives.

REQUIREMENTS FOR THE MINOR

A minimum of 12 credit hours beyond the freshman level of which no more than six hours may be taken at the 200 level.

There are five separate emphases from which the student must choose one.

1. *English Literature*: 201, 202, and six hours in upper division English Literature.

2. *American Literature*: 205, 206, and six hours in upper division American Literature.

3. *Literature and Film*: "Introduction to Film" (3 hours) and nine hours in courses in literature and film. Examples are "Shakespeare on Film" and "American Short Story into Film."

4. *Writing*: 203 and nine hours in 300 level Writing Workshops.

5. *English Honors*: Students who, by invitation of the Department Honors Committee, complete English 212, 213, and two 300 Honors Seminars, may count that program as an English Minor.

HONORS PROGRAM

Students who give evidence of outstanding ability in English through their performance in Thinking and Writing Across the Curriculum 101 or by virtue of superior national test scores will be invited to participate in the English Honors Program.

These students may apply Honors course credits to either an English major or minor, or may use these credits as electives. Further details concerning the Honors program are available through the department office and will be distributed to all nominees at the time of their recommendation for admission to the program.

103. Freshman Honors English. 3 cr.

This is an Honors counterpart to Core 102, developing writing skills and introducing literary types and forms. Participation by invitation only. This course fulfills the Core 102 requirement.

201, 202. English Literature Survey. 3 cr. each
Representative masterpieces of English literature in their literary and historical contexts.

203. Advanced Writing. 3 cr.

Designed to build upon writing skills learned in Core 101 and 102 centered chiefly on development of style and accuracy.

205. American Literature Survey I—Beginning to Civil War. 3 cr.

Representative selections from major American authors treated in both their literary and their historical contexts.

206. American Literature Survey II—After Civil War. 3 cr.

Representative selections from major American authors treated in both their literary and their historical contexts.

- 207. The Novel.** 3 cr.
Introduction both to various types of novels and to critical analysis of fiction.
- 208. Poetry.** 3 cr.
Appreciation of British and American poetry: critical analysis of traditional and experimental poetic form; consideration of philosophical and social concerns of poetry.
- 209. Drama.** 3 cr.
A historical survey of major dramatic forms through a selection of representative works by major playwrights from the classical tradition of Greece and Rome to the Theatre of the Absurd.
- 210, 211. World Literature Survey I, II.** 3 cr. each
A survey of major literary works of the Western world from Homer to Cervantes (210) and from Moliere to Camus (211) with emphasis on continental traditions. The course explores both the thematic preoccupations of Western writers and the development and evolution of literary forms.
- 212, 213. English Literature Honors.** 3 cr. each
Honors counterparts to 201, 202. Major British writers from Chaucer to Eliot. Participation by invitation only.
- 300. Honors Seminar.** 3 cr.
Special areas treated in these seminars will vary and will be designated in the schedule of courses each semester. Enrollment in the Honors Seminar is by invitation of the Honors Committee of the Department of English.
- 308. Applied Linguistics.** 3 cr.
Practical uses of structural linguistics in the teaching of composition and literature.
- 370, 371, 372, 373, 374, 375, 376, 377, 378, 379. Special Studies in English or World Literature.** 3 cr. each
Two or three courses in this sequence are offered every semester by the English Department to meet the current interests of both the students and the faculty. Examples of courses regularly offered are *Science Fiction*; *The English Bible and Literature*; *Comparative Literature*; *Modern Comparative Drama*; *Modern Short Story*; *Far Eastern Literature*; *Introduction to Film*; *The Literature of Mystery and Detection*, *Christian Literature and Art*.
- 380, 381, 382, 383, 384, 385, 386, 387, 388, 389. Writing Workshops.** 3 cr. each
Courses in this sequence are offered each semester in a workshop format designed to develop students' creative and/or technical writing skills. Examples of courses regularly offered are *Playwriting*, *Poetry Workshop*, *Fiction Workshop*, *Writing for Business and Industry*, *Professional and Technical Writing*. Admission by instructor's permission only.
- 406. The English Language.** 3 cr.
An introduction to linguistic analysis with primary

emphasis on the history of the structure of English from old to modern English.

The remainder of the English courses are divided into areas of emphasis. During a four-semester period, each course from each area will be offered at least once.

Medieval Studies

- 402. Chaucer.** 3 cr.
A study of *The Canterbury Tales* and minor poems.
- 410. Medieval Special Topics.** 3 cr.
Studies in the ideas and attitudes of the medieval period approached through one of its dominant genres such as the romance, the drama, the lyric, etc. or through some of its major writers other than Chaucer or through international readings in Old and Middle English, Old Icelandic, Medieval French and German (all read in English translation).

Renaissance Studies

- 413. Sixteenth Century English Literature.** 3 cr.
Survey including non-Shakespearean drama. Sidney, Spenser, Shakespeare. Marlowe and minor figures.
- 415. Milton.** 3 cr.
A survey of Milton and his times. A close scrutiny of the minor poems, and *Paradise Lost* and *Samson Agonistes*.
- 416. Seventeenth Century English Literature.** 3 cr.
Survey of drama, prose, and poetry to 1660.
- 419. Renaissance Special Topics.** 3 cr.
Studies in Renaissance thought and aesthetic in the works of one or more of its great writers: Spenser, Shakespeare, Sidney, Donne, Jonson, etc. or through the ideas and attitudes conveyed in one of the dominant genres of the Renaissance: the lyric, the epic, the drama, etc.

Shakespeare Studies

- 412. Shakespeare I.** 3 cr.
Comedies and romances.
- 418. Shakespeare II.** 3 cr.
Tragedies and histories.

Eighteenth Century Studies

- 422. Restoration Literature, 1660-1740** 3 cr.
Dryden and his contemporaries. Particular emphasis on satire, drama, and criticism.
- 424. English Classicism.** 3 cr.
Developments of neo-classical literature from the Restoration to the death of Pope. Primary attention given to Swift and Pope.

428. Late Eighteenth Century English Literature.

3 cr.

Johnson and his circle, the development of the novel, the aesthetic movement.

429. Eighteenth Century Special Topics.

3 cr.

Studies in Eighteenth Century thought and aesthetic in the works of one or more of its great writers: Dryden, Swift, Pope, Johnson, Blake, etc. or through the ideas and attitudes conveyed in one of the dominant genres of the Eighteenth Century: the drama, the novel, the essay, etc.

Nineteenth Century Studies

435. English Romantic Literature.

3 cr.

A study of the aesthetic, moral, political, and literary aspects of English romanticism approached through the writings of Wordsworth, Coleridge, Byron, Shelley, Keats.

436. Victorian Literature.

3 cr.

A study of the poetry of Tennyson, Browning, Arnold and the prose of Arnold, Carlyle and Ruskin. Attention also given to the poetry of Morris, Rossetti and Fitzgerald.

439. Nineteenth Century Special Topics.

3 cr.

Studies in Nineteenth Century thought and aesthetic in the works of one or more of its great writers such as Wordsworth, Tennyson, Browning, Dickens, Hardy; or through the ideas and attitudes conveyed in one of the dominant genres of the Nineteenth Century.

American Studies

441. Colonial American Literature.

3 cr.

A cultural/historical approach to the theological, political, and aesthetic developments in 17th- and 18th-century America.

442. American Literature of the National Period.

3 cr.

Post-revolutionary literature of the emerging nation, including Irving, Brown, Cooper, Simms, Rowson, Child, and Sedgwick.

445. American Romanticism.

3 cr.

The Romantic/transcendental movement emphasizing Emerson, Thoreau, Poe, Hawthorne, Melville, and Whitman.

465. American Realism and Naturalism.

3 cr.

Post-Civil War fiction of Twain, Howells, James, Chopin, Wharton, Crane, and Norris.

449. American Literature — Special Topics.

3 cr.

Studies designed to reflect current interests of faculty and students alike. Topics can be drawn from such areas as historical background, women's and ethnic studies, regional literature, special themes, and major authors, and literary genres.

Twentieth Century Studies

452. English Literature from 1890 to WWII.

3 cr.

Selective study of authors representing the major literary types and trends, emphasizing Hardy, Moore, Butler, Conrad, Yeats, Hopkins, and Joyce.

453. English Literature Since WWII.

3 cr.

Major modern types and trends.

456. American Literature 1920-World War II.

3 cr.

American prose and poetry of post-World War I, including Dos Passos, Fitzgerald, Stein, Hemingway, Faulkner, Eliot, Frost, and Stevens.

457. American Literature 1920-World War II.

3 cr.

Modernist and post-modern literature of such writers as Mailer, Bellow, Styron, O'Connor, Morrison, Updike, Barth, and Pynchon.

458. Twentieth Century Special Topics.

3 cr.

Studies in twentieth-century thought and aesthetic in the works of one or more writers or through the ideas and attitudes conveyed through one of the dominant genres.

469. Twentieth Century Special Topics.

3 cr.

Studies in Twentieth Century thought and aesthetic in the works of one or more of its major writers such as Yeats, Joyce, Eliot; or through the ideas and attitudes conveyed in one of the dominant genres of the Twentieth Century.

Studies in Language, Criticism, and Theory

460. The English Language.

3 cr.

An introduction to linguistic analysis with primary emphasis on the history of the structure of English from old to modern English.

462. Introduction to Linguistics.

3 cr.

Basic principles and methods of modern linguistics, emphasizing phrase-structure grammar and its practical application to teaching.

464. Modern English Grammar.

3 cr.

Basic principles of phrase-structure (generative-transformational) grammar and its application to the study and solution of problems in writing.

465. History of Literary Criticism.

3 cr.

A study of the major statements about the nature of literature and the nature of criticism.

466. Literary Theory.

3 cr.

A study of the principal developments in twentieth-century literary theory and criticism, with emphasis on New Criticism, structuralism, post-structuralism, Marxism, and feminism.

468. Special Studies:

Language/Criticism/Theory.

3 cr.

Studies designed to reflect current interests of faculty and students. Topics chosen explore in depth a particular figure, movement, or idea.

DEPARTMENT OF HISTORY

Chairperson:
Bernard J. Weiss, Ph.D.

Professors:
Albert B. Costa, Ph.D.
Jean E. Hunter, Ph.D.
Paul T. Mason, Ph.D.
Steven B. Vardy, Ph.D.
Michael P. Weber, D.A.
Bernard J. Weiss, Ph.D.

Associate Professor:
Joseph F. Rishel, Ph.D.

Assistant Professors:
Madeline C. Archer, Ph.D.
Perry K. Blatz, Ph.D.
Louis Haas, Ph.D.
Holly A. Mayer, Ph.D.

Professor Emeritus:
Joseph R. Morice, Ph.D.

Adjunct Assistant Professor:
Ann T. Kowalski, M.A.

REQUIREMENTS FOR THE MAJOR

A minimum of thirty credits must be taken including 'The Shaping of the Modern World' (Core 151), History of the U.S. (103, 104), and either Western Civilization 213 or 214. Fifteen credits must be taken from 200, 300 and 400 level courses. At least six credits must be taken at the 400 level. Six credits of Art History can count for a History major. Graduation with 'honors' in History requires a 3.5 Q.P.A. and the taking of the Senior Honors Seminar (490).

A History major with a concentration in Art History is required to take 30 credits of History and Art History courses, which must include Western Civilization I and II (213, 214), Art History 111 and 112, and a Senior Honors Seminar or a Directed Readings course in Art History. Of the fifteen additional credits, at least nine must be taken in Art History courses above the 100 level.

A maximum of twelve transfer credits in History can be applied to the major requirement.

REQUIREMENTS FOR THE MINOR

Students who wish to minor in History may consult with a department undergraduate advisor. The student is required to take fifteen hours including History of the U.S. (103, 104).

The Art History minor in History consists of fifteen credits of Art History courses, with at least nine credits at the 200, 300, and 400 level.

Introductory Surveys

103. History of the United States to 1877. 3 cr.
The historical development of American institutions, ideals, and society from earliest times to 1877.

104. History of the United States since 1877. 3 cr.
The historical development of American institutions ideals, and society since 1877.

Area Courses

212. Europe in the Feudal Age. 3 cr.
The world of the Middle Ages—a survey of medi-aeval man's political, social, and cultural activities.

213, 214. Western Civilization. 3 cr.
An introductory survey of the origins and characteristics of European Civilization, emphasizing the personalities and events and institutions that have shaped the West.

244. History of Ancient Medicine. 3 cr.
Examination of the most significant medical theories and practices in the period from the Egyptian temple physicians to the doctors of the Roman Empire. Special attention will be given to Hippocrates and Galen.

245. Greek History. 3 cr.
An examination of the development of Greek history and culture from earliest times up to the death of Alexander of Macedon.

246. Hellenistic History. 3 cr.
A survey of Mediterranean history from the death of Alexander until the accession of Octavian and the establishment of the Roman principate.

247. History of the Roman Principate. 3 cr.
Study of the consolidation of the Roman imperial structure from Augustus to the death of Commodus.

248. History of the Late Roman Empire. 3 cr.
Examination of Roman History from the accession of Severus to the death of Justinian.

249. Egyptian Civilization. 3 cr.
A survey of Egyptian history and culture from the pre-dynastic period to the establishment of Roman rule in Egypt. Special attention will be given to the artistic, literary, and religious achievements of Egypt.

254. The History of the Modern Middle East. 3 cr.
A study of the modern Near East with concentration upon the conflict between imperialism and nationalism, traditionalism and western influences, in the area.

255. History of Asia. 3 cr.
A survey of Asian civilization from ancient times to the present day; western colonialism; the rise of the nationalist movement; and the establishment of modern states.

257, 258. Russian History. 3 cr. each
Development of society and state in Russia from their origins to the twentieth century.

259, 260. East-Central Europe. 3 cr. each
The medieval and modern history of the small nations situated between Russia and Germany on the east and west, and the Baltic and Mediterranean Seas on the north and the south.

265. England to 1715. 3 cr.
The foundations of England, emphasizing the origins of the common law, the rise of parliament, the development of English society, and England's contribution to Western thought.

266. Modern Britain. 3 cr.
A study of the first industrial nation, with special attention to the achievement of constitutional monarchy, the social and economic problems of industrialization, the nature of British imperialism, and the problems faced in the 20th century.

267. Canada. 3 cr.
An introduction to Canadian history, with particular attention to the years from 1763 to the present, and to Canadian-American relations and contemporary Canada.

Topical Surveys

305. History of Medicine. 3 cr.
A survey exploring the development of medicine in the Western World in terms of medicine as an art and as a science. The latter part of the course will focus on the social and institutional aspects in the development of American medicine.

307, 308. History of Science. 3 cr. each
A survey exploring the significance of scientific developments within the historical and social context of Western culture.

311, 312. World History and the Historian. 3 cr. each
The course traces the main events of world history in relation to the most important theories of world history and in the context of an inquiry into the nature of historical understanding. The first semester treats prehistory, the emergence of civilization, and the world views of the major classical civilizations. The second semester is an inquiry into the nature of modernity.

320. Colonial America. 3 cr.
The exploration and settlement of the British North American Colonies to 1763.

321. American Revolution. 3 cr.
A survey of the major events, persons and movements in American history from 1763 to 1790.

322. Contemporary Central America. 3 cr.
An examination of the causes of revolution, as well as the major social, economic, and political crises confronting the Central American region.

340. History of Western Law. 3 cr.
Primary emphasis will be placed on the rise of customary law, especially its development in England into Common Law.

341. History of American Law I. 3 cr.
This course deals with the development of law, legal philosophy, and legal institutions in America from the colonial period to the Civil War.

342. History of American Law II. 3 cr.
This course deals with the development of law, legal philosophy, and legal institutions from the Civil War to the present.

343. Church History I. 3 cr.
A religious and historical exploration of the growth of Christianity from the first century up to the Reformation; discussion of those issues within the Church and the external forces which brought about major conflict and development.

344. Church History II. 3 cr.
Selected topics in Catholic and protestant development from 1500 to the present day; special emphasis on the crises, revolutions, and reforms that were central to this development.

345. American Church History. 3 cr.
Emphasizes the historical development of major religious traditions in America, both Catholic and Protestant. Special attention will be given to "the life of the mind" of Christianity in America, the frontier expansion of religion, the often-controversial interaction between the Church and American culture, the place of religion in the creation of the American character, and the unique separation of church and state.

347. War in Modern Society. 3 cr.
A study and analysis of the phenomenon of war in the Western World from the Age of Napoleon to the present, with special emphasis upon the inter-relationship between international conflict and social, political, and technological change.

348. Family and Society in History. 3 cr.
Interaction between the family, the traditional basic unit of society, and the larger world in modern times. Working through family histories, the course will investigate the changing nature of the family in an effort to better understand the modern institution.

357. History of the American Presidency. 3 cr.
Primarily an investigation and evaluation—personal, political, contemporary, and historical—of each president with some attention to the growth of the office.

360. Constitutional History of the United States. 3 cr.
An analysis of the Supreme Court and constitutional development, stressing the major controversies in the field.

- 362. History of the United States' Political Parties Since 1868.** 3 cr.
A detailed examination and analysis of the origins, leadership, and operation of the major political parties since 1868.
- 364. The American Mind.** 3 cr.
The origins, development and contemporary modes of American thought, including major "climates of opinion," diverse movements, and selected scientific, political, religious, social, and artistic topics.
- 366. The Modern Mind.** 3 cr.
The major ideological tendencies of modern European thought and their connection to society and politics, and to the major philosophic and scientific currents of the nineteenth and twentieth centuries.
- 370. Current History.** 3 cr.
What are the major forces affecting our lives today? Where do they come from? Where will they lead to? Resources will be current media such as newspapers, TV, etc.
- 375. History of Inner Asia.** 3 cr.
The history of Inner Asia from Genghis Khan's Mongol Empire to Mikhail Gorbachev's Soviet Empire.
- 378. Europe and International Politics, 1870-1970.** 3 cr.
A study of global international relations since 1870, with emphasis upon the evolution from a European centered world to global politics.
- 382. Psychohistory.** 3 cr.
Examines the inter-relationships between psychology—especially psychoanalysis—and history. Psychology leadership of group behavior, or war, etc.
- 385. Women in History.** 3 cr.
A survey of the historical experience of women, from ancient times, with emphasis on the forces that have led to the modern changes in women's status.
- 386. Historical Geography.** 3 cr.
A survey of the physical world which is the basis for a human civilization, past, present, and future. What are the possibilities and limitations of different places for human development? How successful or unsuccessful were human settlements? Emphasis also on geography as an intellectual discipline and cultural phenomenon.
- 389. Europe: Industrialism and the Masses.** 3 cr.
A historical analysis of Europe in the last two centuries with particular attention to the relationship between technological and social change and its impact on politics and culture.
- 395. Pittsburgh and the American City.** 3 cr.
The rise of Urban America, using Pittsburgh as a case study of city growth and change, industrialization, immigration, and renewal in the twentieth century.
- 397. Reform in Modern America.** 3 cr.
The study of the progressive reform movements in the United States since the Civil War.
- 398. Economic History of the United States.** 3 cr.
Investigates the economic development of the United States, emphasizing its impact on social and political issues as background for current economic problems.
- 401. Medieval Europe.** 3 cr.
- 403. History of Papacy.** 3 cr.
- 413. Renaissance to Reformation.** 3 cr.
- 417. Reason and Revolution.** 3 cr.
- 419. 19th Century Europe.** 3 cr.
- 422. 20th Century Europe.** 3 cr.
- 441. American Painting.** 3 cr.
- 442. American Architecture.** 3 cr.
- 443. American Decorative Arts.** 3 cr.
- 444. Origins of Modern Science.** 3 cr.
- 445. Imperial Russia.** 3 cr.
- 446. Soviet Russia.** 3 cr.
- 447. Hapsburg Empire.** 3 cr.
- 448. Ottoman Empire and Balkans.** 3 cr.
- 452. Amer. Tech. & Material Culture.** 3 cr.
- 453. Explorations in Psychohistory.** 3 cr.
- 462. The American Character.** 3 cr.
- 478. Family and Society in U.S..** 3 cr.
- 480. American Popular Culture.** 3 cr.
- Specialized Areas and Topics*
- 358. Civil War and Reconstruction.** 3 cr.
An intensive study of the American experience before and after the War for the Union.
- 367. Science and Society in the Twentieth Century.** 3 cr.
The economic, social and cultural consequences of the rise of modern science.
- 379. Revolution in the Modern World.** 3 cr.
An analysis of the major political and social revolutions since 1789, the nature of the revolutionary phenomenon, and the inevitable counter-revolutionary trend.
- 380. European Fascism.** 3 cr.
An intensive study of the major fascist movements and regimes of the twentieth century in light of the political, economic, social, intellectual, and psychological tensions which produced them.
- 387. The American Frontier.** 3 cr.
An historical view of man's attempts to create new societies, concentrating upon ecological issues, frontier experiences, and utopian ventures.
- 388. United States: 1945 to the Present.** 3 cr.
A discussion of selected contemporary issues, foreign and domestic, which illustrate the identity crisis in the U.S.

420. Special Studies in European History. 3 cr.

Topic will be announced by the instructor. The course may be taken more than once.

421. Special Studies in American History. 3 cr.

Topic will be announced by the instructor. The course may be taken more than once.

460. History of U.S. Immigration. 3 cr.

An examination of the dynamics of immigration to the United States with emphasis on the new immigration at the turn of the century.

461. American Science and Technology. 3 cr.

The development of science and technology in America from colonial times to the twentieth century.

470. American Urbanization in Historical Perspective. 3 cr.

This course examines the development of the American city with special focus upon changes in land use patterns, social class arrangements, political organizations, mobility and migration, ecological patterns, industrial and commercial developments, transformation of the built environment, and the creation of a national urban policy.

472. U.S. Labor and Capital. 3 cr.

An analysis of the forces which have shaped American industrialization, focusing on the impact of unionization and the development of big business on the everyday lives of Americans from pre-industrial craftsmen to industrial workers.

479. Diplomatic History of United States Since 1898. 3 cr.

Emphasis is upon involvement of the United States in both World Wars and its role as an imperial power.

481. The Modern Historian. 3 cr.

The development of modern historical thinking and scholarship as it is related to the major intellectual and social currents of modern times.

490 Senior Honors Seminar I. 3 cr.

Senior Honors Seminar II. 3cr.

499. Directed Reading, Selected Historical Topics. 3 cr.

Frank D'Amico, Ph.D.
Donato DeFelice, M.S.
Rosaline Lee, Ph.D.
Charles Loch, M.A.
Mark S. Mazur, Ph.D.

Assistant Professors:

Daniel Barbush, M.A.
Adam Drozdek, Ph.D.
Abhay Gaur, Ph.D.
Hershel Sacks, Ph.D.
Lili Shashaani, Ph.D.
Donald Simon, Ph.D.

Lecturers:

Timothy Kelly, M.A., M.S.
Edward Markoff, M.A.
Larisa Shtrahman, M.S.

MATHEMATICS PROGRAM

The major objectives of the mathematics program are to provide knowledge of the theoretical basis of the field, appreciation for the intrinsic beauty of the discipline, skill in interpreting the concepts underlying quantitative procedures, and ability to apply modern mathematical techniques and tools to practical problems. Courses in the curriculum give students an opportunity to develop the basis for critical and logical analysis of problems and to design and implement creative solutions. In addition to comprehensive programs leading to a major or minor in mathematics, offerings are designed to serve the liberally educated person in support of other disciplines.

REQUIREMENTS FOR A MAJOR

The student may choose to pursue a major in mathematics with a program leading to a Bachelor of Arts (B.A.) or a Bachelor of Science (B.S.) degree. The B.A. program, which requires a minimum of 33 semester hours of mathematics, allows a great deal of flexibility for persons interested in combining the major program with a strong minor or double major in a non-science discipline. The B.S. program, which requires a minimum of 39 semester hours of mathematics, is recommended for students interested in scientific applications or further study in mathematics on the graduate level. Requirements are as follows:

Mathematics Core (B.A. and B.S.): 115, 116, 215, 216, 300, 306, 402, and 415. A grade of C or better must be achieved in all mathematics core courses. Remaining courses must be taken at the 200 level or above.

Extra-disciplinary Requirements (B.A. and B.S.): Computer Science 105 or 111.

Additional B.S. Mathematics Requirements: Applications component: At least one course chosen from 301 and 308.

Theoretical component: at least two courses chosen from 403, 420, and 416.

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

Chairperson:

Thomas Keagy, Ph.D.

Professors:

Thomas Keagy, Ph.D.

Kathleen A. Taylor, Ph.D.

Associate Professors:

George R. Brädley, Ph.D.

Additional B.S. Extra-departmental Requirements:
General Analytical Physics 211-212.

APPLICATIONS

If an appropriate program of support work is planned, the mathematics major may choose a career from fields including actuarial science, astronomy, biomathematics, operations research, computer related fields, economics, electronics, engineering, geophysics, operations research, physics, statistical surveying for industry and governmental agencies, and teaching. Elective courses in the major program which have a particular connection to an application area include:

Business: 301-302, 308, 325, and 425.

Computer Science: 235, 301-302, and 308.

Education: 301-302, 311, and 330.

Natural Sciences: 301-302, 308, and 420.

Social Sciences: 301-302, 325, and 425.

Statistics: 301-302, 325, and 425.

REQUIREMENTS FOR A MINOR

The minimum requirements for a minor in mathematics are 116 and 10 additional hours numbered 200 or above. Suggested concentrations include:

Computer applications: 235, 300, 301, 306, and 308.

Logic and foundations: 300, 311, and 330.

Scientific applications: 215, 216, 306, 308, and 420.

Statistics: 301-302, 325, and 425.

102. Trigonometry. 1 cr.

Trigonometric functions and their inverses, identities, graphs, and other properties. Credit is not allowed for both 102 and 105.

105. College Algebra and Trigonometry. 4 cr.

Algebraic expressions, solution of equations and inequalities, algebraic functions and graphs, trigonometric functions, solutions of simultaneous equations and inequalities. Credit is not allowed for both 102 and 105 or for both 105 and 109.

109. College Algebra. 3 cr.

Factoring, radical expressions, equations, inequalities, functions and their graphs, exponential and logarithmic functions, systems of equations and inequalities. Credit is not allowed for both 105 and 109.

111. Calculus for Non-Science Students. 3 cr.

Limits, continuity, differentiation, implicit differentiation, applications of the derivative, exponential and logarithmic functions and their derivatives, integration, and applications of integration. Credit is not allowed for both 111 and 115. Prerequisite: 109 or equivalent.

115. Calculus I. 4 cr.

Functions and their graphs, limits and rates of change, derivatives, the mean value theorem and its applications, integrals, and logarithmic and

exponential functions. Credit is not allowed for both 111 and 115. Prerequisite: 105 or equivalent.

116. Calculus II. 4 cr.

Transcendental functions, techniques of integration, indeterminate forms, improper integrals, Taylor's formula, analytic geometry, plane curves, and polar coordinates. Prerequisite: 115 or equivalent.

125. Fundamentals of Statistics. 4 cr.

An introduction to descriptive and inferential statistics including random variables, probability and sampling distributions, and hypotheses testing.

215. Calculus III. 3 cr.

Vectors and surfaces, vector valued functions, partial differentiation, multiple integrals, vector calculus, sequences, and series. Prerequisite: 116.

216. Ordinary Differential Equations. 3 cr.

Solutions of first order equations, linear equations, differential operators, Laplace transforms, power series techniques, and elementary applications. Prerequisite: 215.

235. Discrete Mathematics. 3 cr.

Mathematical logic, sets, relations, functions, graphs, trees, Boolean algebra, algebraic structures, algorithm development, and languages. Prerequisite: 111 or 115.

300. Foundations of Higher Mathematics. 3 cr.

Mathematical logic, mathematical induction and other proof techniques, sets, relations, functions, number systems, countability, and history of mathematics. Prerequisite: 116.

301. Introduction to Probability and Statistics I. 3 cr.

An introduction to probability theory and mathematical statistics including probability distributions of discrete and continuous random variables and their mathematical expectation and bivariate and multivariate probability distributions. Prerequisite: 116.

302. Introduction to Probability and Statistics II. 3 cr.

A continuation of 301 including probability and sampling distributions of random variables and hypotheses testing. Prerequisite: 301.

306. Linear Algebra. 3 cr.

Systems of linear equations, vectors and matrices, determinants, vector spaces, linear transformations, innerproducts, eigenvalues, and eigenvectors. Prerequisite: 116.

308. Numerical Analysis. 3 cr.

Numerical techniques for solving problems involving linear systems, interpolation, functional approximation, numeric differentiation and integration, and solutions to non-linear equations. Identical course to Computer Science 308. May be counted as either mathematics or computer science, but not both. Prerequisite: 116 and either Fortran (111) or Computer Programming I (105).

311. Number Theory. 3 cr.
Divisibility, congruences, quadratic residues, diophantine equations, and arithmetic functions. Prerequisite: 300.

325. Application of Statistics. 3 cr.
Applications and techniques of procedures in inferential statistics, analysis of variance and covariance, comparisons, random and fixed effects models, multiple regression, and correlation. Prerequisite: 301 or permission of instructor.

330. Fundamentals of Geometry. 3 cr.
Euclidean and non-Euclidean geometry from both the synthetic and metric axiomatic approach. Prerequisite: 300.

402. Abstract Algebra. 3 cr.
Cyclic, abelian, and factor groups. Isomorphisms, direct products, integral domains, rings, and fields. Prerequisite: 215, 300, and 306.

403. Topology. 3 cr.
Topological spaces, homeomorphisms, connectedness, compactness, regular and normal spaces, metric spaces, convergence, and separation axioms. Prerequisite: 215, 300, and 306.

415. Advanced Calculus I. 3 cr.
Functions, convergence of sequences and series, limits, continuity and uniform continuity, derivatives, the mean value theorem, and Taylor's formula. Prerequisite: 215, 300, and 306.

416. Advanced Calculus II. 3 cr.
A continuation of 415 including integration theory and advanced topics in analysis. Prerequisite: 415.

420. Introduction to Complex Variables. 3 cr.
The complex number plane, analytic functions, integration of complex functions, sequences and series, and conformal mappings. Prerequisite: 215, 300, and 306.

425. Experimental Design. 3 cr.
Analysis of variance, multiway analysis of variance problems, Latin square designs, factorial designs, crossover designs, split plot designs, analysis of unbalanced data. Prerequisite: 325.

COMPUTER SCIENCE PROGRAM

The major objectives of the computer science program are to provide the student with a knowledge of the theoretical basis of computing, an appreciation for the relationship between the various components of the field, skills in applying the subject to practical problems, and an ability to adapt to new technologies and advancements. Courses in the curriculum give the student appropriate tools to identify problems best solved by means of a computer

and to design and implement effective, economical, and creative solutions for them. Typically students gain practical exposure to a number of programming languages including Ada, Assembly, C, Fortran, Lisp, Modula-2, Prolog, and operating systems, including Unix, VMS, and Dos. Offerings provide opportunities for students seeking courses supporting other disciplines as well as comprehensive programs leading to a major or a minor in computer science.

REQUIREMENTS FOR THE MAJOR

A minimum of 31 semester hours in computer science is required for the major. In addition, support courses in mathematics and English are required for all majors. At least one course in physics is strongly recommended. All majors must choose either a business or a scientific track as outlined in the subsections below. Requirements for all majors are as follows:

Computer Science Core: 105, 106, 200, 211, 300, 325, 480 (each with a grade of "C" or better)

Additional Computer Science Requirements: At least 12 additional upper level hours (at least 9 of which must be taken at the 400 level)

Mathematics Support Courses: 115-116 (Calculus I & II), 235 (Discrete Mathematics), and either 301 (Introduction to Probability and Statistics), or 306 Linear Algebra

English Support Course: 385 (Professional and Technical Writing)

COMMERCIAL APPLICATIONS

Majors who choose an emphasis in commercial applications minor in business, complete a certificate program in business, or complete a minor in another field related to business or commercial applications. Possible professional positions include business applications programmer, systems analyst, data base administrator, and information systems analyst. Suggested electives include 401, 410, 425, 435, and 445.

SCIENTIFIC APPLICATIONS

Majors who choose an emphasis in scientific applications should minor in one of the laboratory sciences, mathematics, or another field related to scientific applications. Possible professional positions include scientific applications programmer, engineering analyst, and software engineer. Suggested electives include 308, 410, 418, 419, and 425.

REQUIREMENTS FOR THE MINOR

A minimum of 15 hours in computer science and three hours of discrete mathematics are required for a minor. All programs must include Math 235 and

Computer Science 105, 106, 200, 300, and three additional hours numbered 300 and above. Suggested computer science courses related to commercial applications include 325, 401, 410, 425, 435, and 445. Suggested computer science courses related to scientific applications include 308, 325, 410, 418, 419, and 425.

100. Elements of Computer Science. 3 cr.

An introductory course for students in other disciplines. Includes a survey of computer organization, computer languages, the history of computers, and the role of the computer in the modern world. Some programming is required. Credit not given to computer science majors or minors.

101. Introduction to Computer Science/Basic. 3 cr.

A first programming course. Microcomputer programming in Basic, algorithms, data representation, computer logic, and computer organization. Credit not given to computer science majors or minors.

105. Computer Programming I. 3 cr.

Structured programming in Pascal. Data types and representations, arithmetic and logical operations, simple I/O, control structures, subprograms, arrays, records, and an introduction to file processing. Programming style, documentation, and testing.

106. Computer Programming II. 3 cr.

Continuation of 105. Structured programming in Pascal and C. Recursion, dynamic allocation, stacks, queues, and linked lists. String processing, searching, sorting. Prerequisite: 105.

111. FORTRAN. 3 cr.

Concepts of the FORTRAN programming language including formatted I/O, arrays, looping techniques, and subprograms with an emphasis on scientific applications.

200. Computer Organization and Assembly Language. 3 cr.

The organization and operation of a conventional computer including principal instruction types, data representation, addressing modes, program control, and I/O. Assembly language programming. Prerequisite: 105.

211. System Programming and Design. 3 cr.

An introduction to the interaction between software and hardware components in an integrated system. Deals with program translation issues including assemblers, linkers, loaders, and initial processing in compilers. Prerequisite: 200.

300. Data Structures. 3 cr.

Methods for organizing data and an introduction to the connection between the design of algorithms and the efficient implementation and manipulation of data structures. Abstract data types, trees, and graphs. Programming in Ada or Modula-2. Prerequisites: Discrete Mathematics (235) and 106.

308. Numerical Analysis. 3 cr.

Numerical techniques for solving problems involving linear systems, interpolation, functional approximation, numeric differentiation and integration, and solutions to non-linear equations. Identical course to Math 308. May be counted as either mathematics or computer science, but not both. Prerequisite: 105 or 111, and Calculus II.

325. Operating Systems and Computer Architecture I. 3 cr.

An introduction to the organization of various types of operating systems and to basic computer architecture. Major operating systems and components. A functional examination of the basic components of a computer system including the CPU, memory systems, and I/O systems. Prerequisite: 200 and Discrete Mathematics.

401. Data Base Management Systems. 3 cr.

The study of the use, design, and implementation of data base management systems. Topics include data models, current DBMS implementations, and data description, manipulation, and inquiry languages. Prerequisite: 300.

410. Artificial Intelligence. 3 cr.

Knowledge representation and natural language processing, search strategies, design and applications of heuristics, and applications to practical problems in areas such as psychology, medicine, science and architecture. Expert systems. Prerequisite: 200.

418. Formal Languages and Automata. 3 cr.

Introduction to formal languages and their relation to automata. The Chomsky hierarchy of classes of grammars. Normal forms. Recognition of languages by automata. Parsing classes of context-free languages. Decidability problems. Prerequisites: 200 and Discrete Mathematics.

419. Introduction to Microcomputers. 3 cr.

Microcomputers as components of systems, VLSI processor and co-processor architectures, addressing and instruction sets, I/O interfaces and supervisory control, VLSI architectures for signal processing, integrating special purpose processors into a system. Prerequisite: 325.

425. Operating Systems and Computer Architecture II. 3 cr.

Continuation of 325. Techniques in system design, implementation, and evaluation. Microprogramming, parallel processors. Concurrency, synchronization, memory management, processor scheduling. Prerequisite: 325.

435. Theory of Programming Languages. 3 cr.

Syntactic and semantic problems in defining program languages. Problems of language implementation. Global properties of algorithmic languages including scope of declaration, storage allocation, grouping of statements, binding time. Subroutines, coroutines, and tasks. Comparison of several languages. Prerequisite: 300 and Discrete Mathematics.

445. Systems Analysis and Software Design.**3 cr.**

Introduction to the analysis, design, and implementation of large software systems. Topics include methods and tools for the structuring and modular design of large systems, organization and techniques of team programming, design evaluation and validation. Prerequisite: 300.

480. Senior Project.**1-3 cr.**

An individual or group project involving a significant programming component, documentation, and written report on a topic of current interest in computer science. Prerequisites: Senior status, 300, and Professional and Technical Writing.

491-499. Selected Topics in Computer Science.**1-3 cr.**

Topics selected in consultation with the advisor. Prerequisite: Consent of the department chairperson.

DEPARTMENT OF MODERN LANGUAGES AND LITERATURES
Chairperson:

Gregorio C. Martin, Ph.D.

Professors:

Francesca Colecchia, Ph.D.

Carla E. Lucente, Ph.D.

Gregorio C. Martin, Ph.D.

Associate Professors:

Mark Frisch, Ph.D.

Margaret R. Hicks, Ph.D.

Eugenia Skwarecki,

Doctor of Modern Languages and Literature

Assistant Professors:

Donald H. Kellander, M.A.

Anne Maier, M.A.

Roslyn Raney, Ph.D.

Instructor:

Marie Ciccone Sakmar, M.A.

Lecturer:

Rev. Joseph L. Varga, C.S.Sp., M.Ed.

Professor Emeritus:

Primitivo Colombo, Ph.D.

The Department of Modern Languages and Literatures offers courses in French, German, Italian, Russian, Spanish and Swahili. The four language skills (reading, writing, speaking, and oral comprehension), are emphasized at all levels beginning with the elementary courses. Fluency in the active use of the language is emphasized. Courses beyond conversation and composition stress primarily literary studies in which the student is systematically introduced to the literature and is given a working acquaintance with the culture of the groups whose language he/she is studying. Choice of courses deal-

ing with specific works, authors, and auxiliary subjects is also presented. Courses are also offered in Linguistics, Language for Business, and Language for Musicians. All courses at the 300- and 400-levels are conducted in the target language. Incoming students with previous language background are required to take the language placement test. Student participation is required in the language laboratory at the elementary and intermediate language levels and strongly encouraged at the advanced levels. It is recommended that students who must fulfill language requirements begin these courses in their freshman year.

Majors and minors are advised to spend a summer, a semester, or a year abroad in the university programs or those approved in advance by the department. Further information may be obtained in the department office. It is also recommended that majors in the department include a course in the art of the country of the language in which they specialize as well as one course of literature in translation in the literature of a country other than that of their major.

A maximum of 12 transfer credits will be accepted towards the major.

The student possessing a knowledge of foreign languages will find career opportunities in a number of fields such as: education, government employment, foreign service, social work, business and industry, tourism, and international law.

REQUIREMENTS FOR THE MAJOR

The Department offers major programs in French, German, and Spanish. In addition, it offers a minor program in Italian, as well as non-major courses in Russian and Swahili.

The major program in Modern Languages and Literatures consists of a minimum of 27 semester hours at the 300 level and above. Required courses are:

French: 301, 302, 462, 463. Majors will discuss their courses with their advisors.

German: 301, 302, 460, 461. Majors will discuss their courses with their advisors.

Spanish: 301, 302, 401, 402, 453, 460. Majors will discuss their courses with their advisors.

Elementary and intermediate courses must be taken in sequence. Credit toward the major or minor will not be given for 101, 102, 201, 202, or 239, 240. 302 or 303 (306) is the prerequisite to all courses numbered 312 and above.

REQUIREMENTS FOR THE MINOR

The minor program consists of a minimum of 12 semester hours at the 300 level and above.

490. Independent Field Study.**(All Languages)****Var. cr.**

The student will participate, under the supervision

and guidance of the instructor, in selected tours to various foreign countries to undertake independent study on selected and approved projects involving the exploration and study of history, life, work, arts and culture. Prerequisite: Prior permission of the instructor and Department Chairman.

495. Professional Language Internship. 3 cr.
An unpaid internship consisting of 100-120 hours of supervised work for which the student will receive three credits. See Department for particulars.

French

101. Elementary French I. 3 cr.
Fundamentals of oral and written French. Three hours of class and one hour laboratory per week.

102. Elementary French II. 3 cr.
Fundamentals of oral and written French. Three hours of class and one hour laboratory per week. Prerequisite: French 101.

115. French for Musicians. 2 cr.
Specially designed for majors in music to provide them with those skills in French to meet their professional requisites. Registration limited to students in the School of Music.

120. Intensive French. 6 cr.
Fundamentals of oral and written French. Utilizes a different approach allowing the student to complete one year's work in one semester. Six lecture hours and one-hour laboratory each week.

201. Intermediate French I. 3 cr.
An intensified review of grammar and a major emphasis of oral skills. Prerequisite: French 102.

202. Intermediate French II. 3 cr.
Emphasis on the written and oral aspects of the language. prerequisite: French 201.

220. Intensive French. 6 cr.
Review and continuation of 120. Utilizes techniques allowing the student to complete one-year's work in one semester. Prerequisite: 120, 102 or equivalent.

239, 240. Readings in Modern French Authors. 3 cr. each
Selections from modern works of literature. Does not carry credit toward a major or minor. Prerequisite: 202 or equivalent.

301. French Conversation and Composition I. 3 cr.
Prerequisite: 202.

302. French Conversation and Composition II. 3 cr.
Prerequisite: 301.

302 is the prerequisite for all courses above this level.

320. Stylistics. 3 cr.
Comparative study of English/French style in spoken and written French.

321. Phonetics. 3 cr.
Mechanics of phonation with comparative English-French application to phonemic analysis of French.

322. Theatre de L'Avant-Garde. 3 cr.
The "avant-garde" theatre since 1950: such as Ionesco, Beckett, Genet, Schehade, Vian, Pinget.

325. Realism and Naturalism. 3 cr.
Theories of the two movements in the latter part of the 19th Century.

326. The Literature of the Existentialist Movement. 3 cr.
Analysis and discussion of selected works of A. Camus, J.P. Sartre, and G. Marcel.

327. The Symbolist Movement in French Poetry. 3 cr.
A basic introduction to the Symbolist movement, with emphasis on hermetic poetry of Mallarme and Rimbaud.

328. French Poetry: Middle Ages to 20th Century. 3 cr.
Study of mechanics of prosody, various genres, periods, movements in French poetry.

329. 17th Century French Literature. 3 cr.
Emphasis on 17th Century French prose and poetry. Will also include a play of Corneille, Racine, and Molière.

330. French Prose of the 19th Century. 3 cr.
Examination of French prose of the 19th Century.

331. 18th Century French Literature. 3 cr.
An overview of the *Siecle des lumieres*, with emphasis on the literary works of the four major "philosophers" Montesquieu, Voltaire, Diderot, and Rousseau.

332. Voltaire and His Age. 3 cr.
In-depth work on Voltaire, plus one other writer of the period, such as Prevost, Beaumarchais, Bernardin de Saint-Pierre, etc.

360. French for Business. 3 cr.
Spoken and written language of business French. Conventions of letter writing, import, export, and commercial transactions.

460. French Culture and Civilization. 3 cr.
A study of the major cultural and socio-political movements of France through its literary works.

462. Chanson de Roland through 18th Century. 3 cr.
Literary Survey II. Main authors and movements of the Middle Ages, 16th, 17th and 18th Centuries.

463. 19th Century to Modern Period. 3 cr.
Literary Survey II. Main authors and movements of the 19th and 20th Centuries.

464. 17th Century French Theatre. 3 cr.
An overview of the theatre of *le grand siecle*. Emphasis on Corneille, Moliere, and Racine.

465. 18th Century French Theatre. 3 cr.
An overview of the major dramatists of the century, including Marivaux, Voltaire, and Beaumarchais.

466. 19th Century French Poetry. 3 cr.
The major poetic movements of the 19th Century:

Romanticism, Parnassianism, Symbolism, with a special emphasis on Baudelaire.

467. 19th Century French Novel. 3 cr.

Selected novels from the 19th Century, from Romanticism to Naturalism.

468. 19th Century French Theatre. 3 cr.

Beginning with the influence of the Revolution on French literature, through the literary movements of the century. Emphasizes works written for the stage and currents in criticism and directing.

469. 20th Century French Poetry. 3 cr.

Ambivalence of modern French poetry after Baudelaire. Will consider Apollinaire, Valéry, Breton, Aragon, Eluard, Cocteau, Supervielle, Saint-Jean Perse.

470. 20th Century French Novel. 3 cr.

A study of the major works, authors, and movements of the 20th Century.

471. 20th Century French Theatre. 3 cr.

From Jules Romains to Ionesco and the Theatre of the Absurd.

472. Sartre and Camus. 3 cr.

Contrastive study of Sartre and Camus and their works.

480. Directed Readings. Var. cr.

Readings of literary texts under close faculty supervision, for majors only and only with written permission of the Department. Variable credit.

German

101. Elementary German I. 3 cr.

Fundamentals of oral and written German. Three hours of class and one hour laboratory per week.

102. Elementary German II. 3 cr.

Fundamentals of oral and written German. Three hours of class and one hour laboratory per week. Prerequisite: German 101.

115. German for Musicians. 2 cr.

Specially designed for majors in music to provide them with those skills in German to meet their professional requisites. Registration limited to students in the School of Music.

201. Intermediate German I. 3 cr.

An intensified review of grammar and major emphasis on oral skills. Prerequisite: German 102.

202. Intermediate German II. 3 cr.

An emphasis on the oral and written aspects of the language. Prerequisite: German 201.

239, 240. Readings in Modern German Authors. 3 cr. each

Selections from modern works of literature. Does not carry credit toward a major or minor. Prerequisite: 202 or equivalent.

301. German Conversation and Composition I. 3 cr.

Prerequisite: 202.

302. German Conversation and Composition II. 3 cr.

Prerequisite: 301.

302 is the prerequisite for all courses above this level.

320. German Culture and Civilization. 3 cr.

A study of the major cultural and socio-political movements of Germany through its literary works.

324. Popular Tradition in German Literature. 3 cr.

Legends, fairytales, folklore, and chap books.

329. Introduction to German Poetry. 3 cr.

German verse from early modern times to contemporary. Narrative, dramatic, and epic verse. Emphasis on lyric verse.

330. Modern German Prose. 3 cr.

Individual's search for identity in the prose works of Thomas Mann, F. Kafka, H. Hesse, and H. Boll.

331. Modern German Theatre. 3 cr.

From the introduction of naturalism into German drama in the late 19th Century to the most recent movements since World War II. Will discuss Hauptmann, Brecht, Zuckmayer, Durrenmatt and Frisch.

360. German for Business. 3 cr.

Spoken and written language of business German. Conventions of letter writing, import, export, and commercial transactions.

460. German Literature from the Middle Ages to the Baroque. 3 cr.

A survey of German literature from the Middle Ages through the 17th Century.

461. German Literature from the 18th Century to the 20th Century. 3 cr.

A survey of German literature from Lessing to the present.

462. Advanced German Stylistics. 3 cr.

Comparative study of style.

464. German Romantic Literature. 3 cr.

The German Romantic movement following the Napoleon era. The role of the individual in the works of Novalis, Tieck, etc.

465. Modern German Prose. 3 cr.

The process of alienation in modern German narrative. Includes novels by H. Hesse and T. Mann.

467. Age of Goethe. 3 cr.

Study of important works of Goethe and other major writers of this period.

468. Goethe's Faust. 3 cr.

Emphasis on the spirit of the 18th Century as personified in Goethe's *Faust*.

470. Literature of the Enlightenment. 3 cr.

A study of literary works of major writers of this era such as Klopstock, Lessing, and Kant.

471. Sturm und Drang. 3 cr.

"Storm and Stress" as Germany's literary revolution against the despotic tyrants of the 18th Century, including Goethe's *The Sorrows of Young Werther* and Schiller's *The Robbers*.

480. Directed Readings. Var. cr.
Reading of literary texts under close faculty supervision; for majors only and only with written permission of the Department. Variable credit.

Italian

101. Elementary Italian I. 3 cr.
Fundamentals of oral and written Italian. Three hours of class and one hour laboratory per week.

102. Elementary Italian II. 3 cr.
Fundamentals of oral and written Italian. Three hours of class and one hour laboratory per week. Prerequisite: Italian 101.

115. Italian for Musicians. 2 cr.
Specially designed for majors in music to provide them with those skills in Italian to meet their professional requisites. Registration limited to students in the School of Music.

201. Intermediate Italian I. 3 cr.
An intensified review of grammar and major emphasis on oral skills. Prerequisite: Italian 102.

202. Intermediate Italian II. 3 cr.
Emphasis on the oral and written aspects of the language. Prerequisite: Italian 201.

306. Advanced Italian Conversation and Composition. 3 cr.
Prerequisite 202 or equivalent. Prerequisite for all courses above 306.

314, 315. Individual Study. Var. Cr.
With written permission of the department. Prerequisite: 202.

321. Modern Italian Novel. 3 cr.
A study of the works of significant representatives of neorealism, analyzed within the framework of the social and political atmosphere of pre- and post-World War II Italy.

322. Commercial Italian. 3 cr.
Spoken and written language of business Italian, conventions of letter writing, import, export, and commercial transactions.

323. Pirandello, Svevo, Pavese. 3 cr.
Analysis and stylistic comparison of these three writers representative of the literary involvement after *verismo* to the psychological novel and drama, and to neorealism.

324. Introduction to Italian Poetry. 3 cr.
A study of the works of the most important modern Italian poets.

326. Italian Culture and Civilization. 3 cr.
A study of the major cultural and socio-political movements of Italy through its literary works.

Russian

101. Elementary Russian I. 3 cr.
Fundamentals of oral and written Russian. Three hours of class and one hour laboratory per week.

102. Elementary Russian II. 3 cr.
Fundamentals of oral and written Russian. Three hours of class and one hour laboratory per week. Prerequisite: Russian 101.

201. Intermediate Russian I. 3 cr.
An intensified review of grammar and major emphasis on oral skills. Prerequisite: Russian 102.

202. Intermediate Russian II. 3 cr.
Emphasis on the oral and written aspects of the language. Prerequisite: Russian 201.

306. Advanced Russian Conversation and Composition. 3 cr.
Prerequisite 202 or equivalent. Prerequisite for all courses above 306.

314, 315. Individual Study. Var. Cr.
With written permission of the department. Prerequisite: Russian 202.

320. A. P. Chekhov. 3 cr.
Chekhov's stories studied against the social, political and philosophic background of his time.

321. 19th Century Russian Short Story. 3 cr.
The development of the short story from Pushkin to Chekhov. The aim of this course is to develop critical analysis of selected works, focusing on their philosophical content and political environment. Course conducted essentially in Russian.

322. Commercial Russian. 3 cr.
Spoken and written language of business Russian, conventions of letter writing, import, export, and commercial transactions.

323. Russian Folklore. 3 cr.
Emphasis is on rituals, epics, ballads, and fairy tales.

324. Contemporary Russian Literature. 3 cr.
Study of short stories of Soviet writers. Representing ideological positions and evolutionary trends from the revolution to Solzenitsyn. Course conducted essentially in Russian.

Spanish

101. Elementary Spanish I. 3 cr.
Fundamentals of oral and written Spanish. Three hours of class and one hour laboratory per week.

102. Elementary Spanish II. 3 cr.
Fundamentals of oral and written Spanish. Three hours of class and one hour laboratory per week. Prerequisite: Spanish 101.

120. Intensive Spanish. 6 cr.
Fundamentals of oral and written Spanish. Utilizes a different approach allowing the student to complete one year's work in one semester. Six lecture hours and one-hour laboratory each week.

201. Intermediate Spanish I. 3 cr.
An intensified review of grammar and major emphasis on the oral skills. Prerequisite: Spanish 102.

- 202. Intermediate Spanish II.** 3 cr.
Emphasis on the oral and written aspects of the language. Prerequisite: Spanish 201.
- 220. Intensive Spanish.** 6 cr.
Review and continuation of 120. Utilizes techniques allowing the student to complete one-year's work in one semester. Prerequisite: 120, 102 or equivalent.
- 239. Readings in Modern Spanish Authors.** 3 cr.
Selection from modern works of literature. Does not carry credit toward major or minor. Prerequisite: 202 or equivalent.
- 240. Readings in Modern Spanish-American Authors.** 3 cr.
Selection from modern works of literature. Does not carry credit toward major or minor. Prerequisite: 202 or equivalent.
- 301. Spanish Conversation and Composition I.** 3 cr.
Prerequisite: 202.
- 302. Spanish Conversation and Composition II.** 3 cr.
Prerequisite: 301.
- 302 is the prerequisite for all courses above this level.
- 322. The Nineteenth Century Novel.** 3 cr.
Examines the realist, naturalist, and regionalist novel in the works of Galdos, Clarin, Pardo Bazan, Pereda, and Valera.
- 323. Don Juan as a World Literary Figure.** 3 cr.
Principal plays and narrative poems dealing with the theme from its origins in Seventeenth Century Spain through modern times. Authors include Tirso de Molina, Moliere, Mozart, Byron, Zorrilla, and G. B. Shaw.
- 324. The Generation of 98.** 3 cr.
Major works of Spain's turn of the century authors in their aesthetic and historical contents. Includes: Unamuno, Azorín, A. Machado, Pío Baroja, J.R. Jiménez and Valle Inclán.
- 325. Contemporary Spanish Novel.** 3 cr.
The Spanish Novel since the Civil War. From Cela to the present.
- 326. Contemporary Spanish-American Fiction.** 3 cr.
Most recent developments in the novel in historical perspective. From Asturias through García Márquez and Sarduy.
- 327. Spanish Culture and Civilization.** 3 cr.
A study of the major cultural and socio-political movements of Spain through its literary works.
- 328. Modern Spanish Theatre.** 3 cr.
From Buero Vallejo to the present, including the "Underground Theatre".
- 329. Revolt and Change: The Spanish American Novel.** 3 cr.
Nature and types of protest expressed in modern Spanish-American Literature. Major works of "protest Literature".
- 330. Theatre of the Golden Age.** 3 cr.
Reading and discussion of works of the major dramatists of the period: selected plays by Lope de Vega, Calderón and Tirso de Molina.
- 360. Spanish for Business.** 3 cr.
Spoken and written language of business Spanish. Conventions of letter writing, import, and commercial transactions.
- 401. Spanish Literature from the Cid through the Siglo de Oro.** 3 cr.
Survey of major works from the Medieval Period through the 17th Century.
- 402. Spanish Literature from the 18th Century to the Present.** 3 cr.
Survey of works representative of the major literary movements of the 18th, 19th, and 20th Century.
- 453. Trends in Latin American Literature.** 3 cr.
Major movements and representative works from Pre-Columbian period to the present.
- 460. The Quixote.** 3 cr.
An in-depth study of Cervantes' masterpiece and of the symbolic meaning of the two main characters.
- 461. Spanish Literature since the Civil War.** 3 cr.
The Civil War as mirrored in this literature. Its relationship to contemporaneous literary expression in other countries. From Hernández through Goytisolo and Sastre.
- 462. Avant-Garde Spanish-American Theatre.** 3 cr.
An introduction to the avant-garde theatre in Spanish America. Historical perspective. Influence of European avant-garde.
- 463. Lorca and the Generation of 1927.** 3 cr.
Major poets of the "Lorca-Guillen generation" who brought Spanish poetry to the new "Siglo de Oro".
- 464. The Literature of the Siglo de Oro.** 3 cr.
Spain's most glorious era through the poetry, prose, and drama of its major authors.
- 465. Literature of Spanish Romanticism.** 3 cr.
Study of the major poems, plays and historical novels of the period. Authors include Duque de Rivas, Espronceda, Larra, Becquer, Rosalía de Castro and Zorrilla.
- 466. The Age of Enlightenment.** (3 cr.)
The study of literary works of major 18th century Spanish writers.
- 467. Readings in Medieval Literature.** 3 cr.
The development of Spanish literature from its oral tradition as well as the evolution of the Spanish language, beginning with the "jarchas" through *La Celestina*.
- 480. Directed Readings.**
Readings of literary texts under close faculty supervision: for majors only and only with written permission of the Department. Variable credit.

Swahili

101, 102. Elementary Swahili. 3 cr. each
Fundamentals of oral and written Swahili. Three lecture hours and one hour laboratory each week.

201, 202. Intermediate Swahili. 3 cr. each
An intensified continuation of 101 and 102. Prerequisite: 102 or equivalent.

DIVISION OF PERFUSION TECHNOLOGY*Academic Director:*

Tata Subhas, D.V.M., Ph.D.

Medical Director:

Ronald B. Pellegrini, M.D.

Duquesne University, in collaboration with The Mercy Hospital of Pittsburgh, offers a four-year program leading to a Bachelors' Degree in Perfusion Technology. Students in the program are provided with a comprehensive education and training, within the guidelines established by the Committee on Allied Health Education and Accreditation, and prepared for eligibility for professional certification and registration.

Students with a B.S. Degree may complete the program in two years.

Perfusion Technology is the knowledge and application of advanced medical technology for the management of vital physiologic functions in medical situations, such as open heart surgery. It involves the operation specialized instrumentation and monitoring of mechanical devices during advanced life support procedures.

Perfusion Technologists work under the supervision of physicians in hospitals and clinics and operate specialized medical equipment during surgical procedures, such as open heart surgery, cardiac catheterization and dialysis.

CURRICULUM**Pre-Professional**

The Pre-Professional phase, which is completed during the first two years, consists of a sequence of core courses in Biology (112), Chemistry (121, 122, 205, and 206), and Physics (201 and 202), and advanced courses in Anatomy and Physiology (207 and 209). In addition students must complete the University Core curriculum requirements.

101. Perfusion Technology Orientation. 1 cr.
Professional/Clinical

The Professional/Clinical curriculum is two years in length, including summer semesters. Upon successful completion of Pre-Professional requirements, students are admitted into the Professional/Clinical phase. Post-Baccalaureate students who meet Pre-Professional curricular requirements may be

admitted directly into the Professional/Clinical phase. The Professional/Clinical curriculum includes:

301. Introduction to Perfusion**Technology.**

3 cr.

Students will be introduced to the surgical suite environment with emphasis on aseptic technique, sterilization procedures, and general O.R. conduct. Demonstration and discussion of devices used in O.R. will be emphasized. The evolution and history of cardiac surgery and the development of extra-corporeal devices, as well as modern techniques and application in these fields will be presented. Focus on the practice and ethics of perfusion technology will be discussed.

306. Applied Instrumentation.

3 cr.

Lectures and applications pertaining to mechanical and electronic principles to the instrumentation associated with perfusion technology. Emphasis will be placed on design and selection of equipment stressing basic electronics, background for monitoring systems, and safety measures. Introduction to the use of computers in medicine.

320. Surgical Research Technique.

3 cr.

Lectures and demonstrations relating to perfusion technology in the use of extra-corporeal devices and monitoring instrumentation in controlled in-vivo and in-vitro laboratory environments will be presented. During this time, writing skills, computer literacy, and presentations will be reinforced. This will be in conjunction with Applied Perfusion Technology.

302. Applied Perfusion Technology.

3 cr.

Lectures and demonstrations relating to circulation as it pertains to the clinical use of extra-corporeal technology and monitoring instrumentation in cardiovascular surgery will be presented. Other applications with related technology will be discussed, such as, assist devices, cardiac catheterization, ECMO, and balloon pumping.

330. Cardiovascular Pharmacology.

2 cr.

A survey of pharmacology emphasizing cardiovascular drugs and agents used in perfusion technology and surgery. Particular emphasis will be placed on the interactions of these drugs as they apply to the cardiovascular and respiratory systems.

331. Cardiovascular Pathology and**Physiology.**

2 cr.

An understanding of pathological conditions that exist in all organ systems with special emphasis on the cardiovascular system. Acquired and congenital defects will be discussed. Attention will be given to pathological conditions that exist in patients requiring perfusion.

Renal and cardiac physiology and the management of disease including the use of extra-corporeal devices will be presented. Topics will include acid-base physiology, hemodynamic monitoring and

measurement, blood gas analysis, coagulation potential, electrolyte balance, red cell concentration, blood conservation, temperature monitoring, blood products and anesthetic agents associated with the extra-corporeal circuit.

340. General Medical Business

Management.

2 cr.

Basic functions of management will be discussed with emphasis on the organization and business structure of hospital systems. Topics to be included are budget skills, cost-containment, inventories, purchasing, and personnel management.

401. Clinical Perfusion Technology.

3 cr.

Clinical experience in the preparation of extra-corporeal circulatory devices and physiological monitoring instrumentation in support of cardiovascular surgery. Major areas of experience will include: heart-lung bypass for adults, adjunctive techniques used with extra-corporeal circulation, and patient monitoring techniques.

450. Clinical Practicum in Perfusion Technology.

9 cr.

An opportunity is given to acquire skills necessary for clinical perfusion. Students will be directly supervised during all procedures. Major areas of experience may include: laboratory experience, heart-lung bypass, long term supportive extra-corporeal circulation, monitoring, hypothermia, pulsatile flow devices, red blood cell concentration and hemodilution, and pharmacologic intervention. Monitoring techniques will include: hemodynamic measurements, temperature monitoring, blood gas analysis, electrophysiology, coagulation status, fluid-electrolyte balance, bubble detection, and level-sensing. A sufficient number and variety of clinical perfusions to satisfy the recommendations of the American Board of Cardiovascular Perfusion will be completed.

402. Clinical Circulation Technology.

3 cr.

Special applications of perfusion technology will be presented. They are cardiac catheterization, right and left heart bypass, autotransfusion, hepatic and cardiac transplantation, renal dialysis, and hypothermia.

460. Clinical Practicum in Circulatory Technology.

9 cr.

An opportunity to acquire skills necessary to perform procedures required in circulatory technology. Students will be directly supervised during all procedures where applicable. They include an exposure to cardiac catheterization, echocardiogram, EKG, pacemaker insertion, PTCA, and laser surgery. Adjunctive techniques utilizing supportive long term extra-corporeal circulation, intra-aortic balloon pumping, red blood cell concentration and dilution, hemodynamic measurements, temperature monitoring, electrophysiology, coagulation potential, fluid electrolyte balance. Special applications will include

renal dialysis and plasmapheresis. A sufficient number and applications to satisfy the recommendations of the American Board of Cardiovascular Perfusion will be completed. Opportunity for cardiovascular rounds and conferences are presented.

310-312, 410-411. Seminars.

2 cr.

Conferences, group discussions, and lectures of selected topics of interest pertaining to cardiac surgery and perfusion technology will be presented.

DEPARTMENT OF PHILOSOPHY

Chairperson:

Eleanore Holveck, Ph.D.

Professors:

Charles D. Keyes, Ph.D.

Donald Polansky, Ph.D.

Roland Ramirez, Ph.D.

Tom Rockmore, Ph.D.

John Scanlon, Ph.D.

Associate Professors:

Eleanore Holveck, Ph.D.

Robert Madden, Ph.D.

Wilhelm S. Wurzer, Ph.D.

Assistant Professor:

Edward Gelblum, M.A.

Professor Emeritus:

Rev. Andre Schuwer, Ph.D.

Michael Strasser, Ph.D.

The program offered by the Department of Philosophy is designed to be a basic part of the student's liberal education. It is intended to introduce students to philosophical thinking, past and present, to provide a discipline for asking the basic questions of life and to help students begin relating their other academic subjects to one another and to human experience. The Department, made up of professors who have different philosophical interests, attempts to develop the capacity for independent thinking on all issues.

The Philosophy Department is in the process of revising its curriculum so the material below may be out of date. Students are advised to consult the Department for the newest information.

REQUIREMENTS FOR THE MAJOR

The Department requires majors to take nine philosophy courses above the 100 level: of these nine courses, three must be selected from the Historical Sequence, and two from the sequence of Advanced Courses.

REQUIREMENTS FOR THE MINOR

Five courses are required for a minor: one from the Introductory Courses (100 level), two from the Basic Courses (200 level), and two from the Historical Sequence and Advanced Courses (300 and 400 levels).

Introductory Courses

- 104. Introduction to Philosophy.** 3 cr.
A first-hand study of selected philosophical texts from both traditional and existential perspectives with the aim of introducing students to the nature of philosophical thinking, and to the variety of philosophical issues, area, methods, and theories.
- 105. Ethics.** 3 cr.
An introduction to ethical theories of past and present times. Contemporary moral issues will be considered in the light of these theories.
- 106. Introductory Logic.** 3 cr.
Analysis of the requirements for valid reasoning, logical fallacies, types of definitions, and important informal aspects of arguments in ordinary discourse will be studied in addition to the formal logic of inferences involving simple and compound statements.
- 107. Medical Ethics.** 3 cr.
Ethical questions that arise in medical care and research will be examined. Topics might include: experimentation on animals and man, allocation of scarce medical resources, euthanasia, the privileged relationship of doctor and patient, etc.
- 108. Business Ethics.** 3 cr.
This course, designed primarily for business majors, begins with a discussion of some general ethical issues and, in particular, the problem of a just distribution of wealth. These discussions are applied to concrete current business problems.

Basic Courses

- 200. Introduction to Phenomenology.** 3 cr.
The basic approach to philosophical issues developed by Husserl, the founder of Phenomenology, will be explored; the types of signs, meaning, the possibility of philosophy as rigorous science, etc. are considered.
- 203. Philosophy of Religion.** 3 cr.
Introduction to the nature of religious experience. Topics such as: religious symbolism; belief and unbelief, the existence of evil, and free will, will be considered. Assigned readings include both traditional and contemporary writers.
- 204. Literature and Philosophy.** 3 cr.
Explores philosophical themes as they emerge within great works of literature. Works will be selected from such authors as: Sophocles, Dante, Shakespeare, Goethe, and Dostoyevski.
- 205. Existential Phenomenology.** 3 cr.
Examination of the methods and style of thought which characterizes existential phenomenology. Lectures and discussion on texts by major thinkers, such as: *Being and Time* by Heidegger, *Phenomenology of Perception* by Merleau-Ponty, and *Being and Nothingness* by Sartre.

- 211. Marxism.** 3 cr.
A study of the political philosophy of Karl Marx as one of the major directions in social thought: Engels, Lenin, and contemporary Marxism.
- 212. Political Philosophy.** 3 cr.
Fundamental political questions will be explored. For example: Utopian state, freedom, justice, the origins of political society, war and empire and revolution may be considered. Possible authors read: Plato, Aristotle, Aquinas, Machiavelli, Hobbes, Locke, Rousseau and Hegel.
- 214. Philosophy of Sex.** 3 cr.
The course provides an introduction to some of the basic themes and texts, both traditional and contemporary, related to the philosophical study of sex. It uses historical, analytical and phenomenological methods and gives attention to the sexual origin of our consciousness of values.
- 215. Psychoanalysis and Philosophy.** 3 cr.
Psychoanalysis has had an impact upon and been affected by modern philosophy. This course will study the presuppositions and implications of Freud's thought and that of some other thinkers, such as Sartre, Marcuse, Ricoeur.
- 216. Communication and Philosophy.** 3 cr.
Speech is man's most important means of communication. The course will examine the structure, purpose, and function of speech in everyday usage and in the spheres of politics, science, and art.
- 217. Elementary Symbolic Logic.** 3 cr.
Introduction to the methods of symbolic logic as applied to the logic of arguments involving compound statements, propositional functions and quantifiers, and relations.
- 218. Special Topics.** 1-3 cr.
- 220. Philosophy of Death and Living.** 3 cr.
The course provides an introduction to some of the basic themes and texts, both traditional and contemporary, related to the philosophical study of death. Its main purpose is to ask how human beings can be happy in view of death's certainty; therefore it emphasizes the act of living.
- 224. Philosophy of Sport.** 3 cr.
A philosophical examination of the nature of sport. Particular focus will be upon the ontological, ethical and aesthetic status of the phenomenon of sport.
- 225. Elements of Thomistic Thought.** 3 cr.
An introduction to the basic concepts and principal ideas of Christian philosophy with an emphasis on the thought system of St. Thomas Aquinas. The course will cover an introduction to metaphysics, metaphysical thinking, definition of knowledge, analogy of being, the principles, structure and causes of being, the concept of the transcendent and the problem of evil.

255 Philosophy of Technology. 3 cr.
Philosophical examination of how our lives are shaped by technology and the relation of technology with science, religion, ethics, and metaphysics.

260. Philosophy of Law. 3 cr.
A study of the major legal traditions. The following topics will be examined: legal reasoning, justice and law, ethics and law, legal relations and social institutions, philosophical issues involved in evidence and procedure, legal and political theories, and theories of law.

Historical Sequence

300. Ancient Philosophy. 3 cr.
A study of the beginning of Philosophy in Greece, from the Presocratics to Plotinus with readings principally taken from Plato and Aristotle.

301. Medieval Philosophy. 3 cr.
A philosophical study of medieval texts in English translation selected as representatives of the broad range of issues, approaches, and theories which characterize the major Christian, Jewish, and Islamic Philosophical thinking of the period.

302. Early Modern Philosophy. 3 cr.
Explores the beginning of modern thinking in the 16th century and proceeds to the time of the French Revolution. Course work consists in analysis of several important texts chosen from such philosophers as: Montaigne, Descartes, Pascal, Hobbes, Spinoza, Leibniz, Locke, Hume, Kant.

304. Later Modern Philosophy. 3 cr.
This course examines the period of modern philosophy initiated by Kant. It deals primarily with the crucial thinkers of the 19th century including: Hegel, Feuerbach, Kierkegaard, Marx, Mill, and Nietzsche.

305. Contemporary Philosophy. 3 cr.
A study of contemporary philosophy from 1900 to the present, covering the methods and history of selected 20th century movements.

322. American Philosophy. 3 cr.
Puritanism, Enlightenment, Transcendentalism, Pragmatism, with emphasis on key figures in American Philosophy: Peirce, Dewey, James, Royce, Santayana, Whitehead, etc.

323. Oriental Philosophy. 3 cr.
Introduction to Oriental thought through study of its major structures in their historical setting, aiming at understanding its characteristic vision. Examination of perspectives presented by traditions such as Confucianism, Taoism, Buddhism, Hinduism and others.

325. Concentrated Philosophical Readings. 3 cr.
This course is an in-depth study of one or several philosophers such as Plato, Aristotle, Aquinas,

Occam, Descartes, Kant, Wittgenstein, Strawson, Heidegger, etc., varying in subject matter from time to time.

Advanced Courses

313. Philosophy of the Human Sciences. 3 cr.
The relations of the human sciences with other sciences, with philosophy, and with practical life, the use of mathematics and interpretation, and other issues will be discussed in relation to past and contemporary philosophical and scientific thought.

401, 402. Thomism. 3 cr. each
Courses dealing with the texts of St. Thomas Aquinas. The first semester (401) covers his metaphysics and the second semester (402) deals with his philosophy of man. Neo-scholastic interpretations of the texts of Aquinas (Maritain, Gilson and the school of Marchal and Rahner).

403. Philosophy of God. 3 cr.
This course introduces students to selected texts and basic themes in types of religious experience such as: Babylonian, Greek, and Judeo-Christian. It emphasizes such questions as: What is the Holy? What is the relation between scientific knowledge and religious knowledge? What are the various arguments about the existence of God and the immortality of the soul? Why is there human suffering if God is good and all-powerful? What do the symbols of the end of the world mean? Attention is given both to traditional and to contemporary philosophical texts.

406. Aesthetics. 3 cr.
An examination of theories of art which explore such questions as: the beautiful, creativity, imagination, and the role of art in life. Authors such as: Aristotle, Lessing, Kant, Hegel, Nietzsche, Heidegger, and Camus will be read.

415, 416. Ancient Philosopher. 3 cr. each
A course devoted to detailed study of a single ancient thinker, such as Plato or Aristotle.

420, 421. Medieval Philosopher. 3 cr. each
A leading Medieval thinker or thinkers, such as: Augustine, Avicenna, Maimonides, Bonaventure, will be studied.

425, 426. Modern Philosopher. 3 cr. each
In-depth examination of the work of a single or a group of historically modern authors: e.g., rationalism (Descartes, Spinoza, Leibniz), empiricism (Locke, Berkeley, Hume), Kant, Hegel, Nietzsche.

430, 431. Contemporary Philosopher. 3 cr. each
Concentration upon a single contemporary philosopher: e.g., Husserl, Heidegger, Sartre, Merleau-Ponty, Whitehead, Wittgenstein.

DEPARTMENT OF PHYSICS

Chairperson:
Reginald A. Ney, M.S.
Professors:
Shih-Chi Chang, Ph.D.
Rev. J. Clifton Hill, Ph.D.
Assistant Professor:
Reginald A. Ney, M.S.
Instructor:
Anna D'Eramo, B.S.

The program in the Department of Physics is primarily aimed at providing today's students with a fundamental background in traditional Physics as well as the interrelationships with other sciences and disciplines. The Department is also aware that in today's changing world, there must be a suitably flexible program which will best fit the graduate for the challenges faced in the many professions which are based on the science of Physics. There is always the hope that the student will continue professional growth in physics but it is also realized that there are many expanding paths to professional growth. The Department program, therefore is structured to provide the essential background for success in graduate studies in the many current fields which seek Physics graduates, as well as equipping the student to successfully compete for the available positions in research institutions, government agencies or private corporations. Department policy calls for individual attention to student needs.

REQUIREMENTS FOR THE MAJOR

A minimum of 32 semester hours is required for a major. These credits must include: 211, 212, 301, 329, 330, 361, 372, 402, 430, 473, 483; (474, 484, or 485 may be substituted for 483 with departmental approval).

Extradepartmental Requirements: Chemistry 121, 122 or Biology 111, 112; Mathematics 115, 116, 215, 216, 308, Computer Science 111, and two years of modern language.

If a student takes 207, 208-Physics and the Modern World and either 201, 202-General Physics or 211, 212-General Analytical Physics, the credits for the 207, 208 will not apply to the total number required for the degree. Credit will not be given for both 201, 202 and 211, 212.

REQUIREMENTS FOR THE MINOR

The minor consists of eight hours in the General Analytical Physics (211, 212) and 12 credits of upper division physics on the 300 and above level. The department will structure the minor program from the course offerings to fit, as nearly as possible, the needs and desires of the individual student.

REQUIREMENTS FOR BINARY ENGINEERING STUDENTS

In addition to those courses needed to fulfill the University and College of Arts and Sciences Core requirements, each Binary Engineering student is required to complete the following: Physics 211, 212, and 473, Chemistry 121 and 122, Mathematics 115, 116, 215, 216, 308 and Computer Science 111. Mathematics 306 is recommended, but not required.

Depending upon the field of engineering that a student elects to pursue, the Binary Engineering Student may select additional courses from the following list in order to enhance his/her background and understanding: Chemistry 221, 222, 321, and 322. Physics 301, 306, 329, 330, 361, 372, and 483. Selection of additional courses must be discussed with and approved by the Binary Engineering Liaison Officer who serves as academic advisor to all Binary Engineering Students.

102. Historical Geology 3 cr.

A course which examines the essentials of the Earth's evolutionary development through time. Topics covered in this course may include the physical composition and structure of Earth; plate tectonics and mountain building processes; the concept of geologic time and its measurement; and, a history of the development of life on earth. Evolution of local features may also be discussed along with their relationships to plate tectonics. This course presumes no geologic or scientific background, and is open to all students within the University. It is also suitable for completion of non-core science requirements for students in the College of Liberal Arts and Sciences, and as an earth science course for School of Education students.

200. Physics for Pharmacists 4 cr.

A laboratory course designed especially for Pharmacy students to provide a basic knowledge of Physics and its relationship to pharmaceutical science. Topics normally covered include mechanics, properties of matter, heat and thermodynamics, basic electricity, wave motion and light, and selected topics in modern physics. In addition to being introduced to the physical concepts, the student will also be instructed in the analytical approach to problem solving that is essential to both the physical and pharmaceutical sciences. Prerequisite: Mathematics 115. Lecture four hours, Laboratory/Recitation, two hours. (Note: Students preparing for a medical degree program must take Physics 201, 202 or Physics 211, 212. Pharmacy students concentrating in Nuclear Pharmacy are encouraged to complete Physics 201 and 202.)

201, 202. General Physics. 4 cr. each

Designed to give the student a basic knowledge and understanding of mechanics, properties of matter, heat, wave motion, sound, magnetism, electricity, light, and modern physics through the use of mod-

ern day examples and applications. At the completion of this course, the student should have attained a working knowledge of physics, its techniques and reasoning such that the knowledge of physics gained may be applied to future work in the sciences or other fields of endeavor. Prerequisite: Mathematics 105 or the equivalent. Students who have completed Mathematics 116 and pre-engineering students should take 211, 212. Lecture, four hours; Laboratory, two hours.

203. Astronomy

3 cr.

This course provides the student with a sampling of the principles and concepts of elementary astronomy and astronomical observation. Topics covered may include: the scale of the cosmos; the celestial sphere; the solar system — past, present and beyond; astronomical tools; properties of stars and starlight; the life cycle of stars; black holes and neutron stars; and the origin, evolution and properties of galaxies. The question of life on other worlds may also be examined. This course presumes no scientific background, and is open to all students within the University. It is also suitable for completion of non-core science requirements for students in the College of Liberal Arts and Sciences, and as a physical science course for School of Education students.

207, 208. Physics and the Modern World.

3 cr. each

A course especially for the nonscientist. Designed to give the student some basis for understanding the physics of the twentieth century and the physicist's approach to the study of nature. The physics of everyday life is used as a basis, and classroom demonstrations are generously employed to help the student grasp concepts by showing concrete examples. Prerequisite: High-school mathematics.

211, 212. General Analytical Physics.

4 cr. each

An introduction to the fundamental theories and applications of classical physics designed for students of science and engineering. A good algebra and trigonometry background is presumed and methods of using the calculus are presented. The approach is strongly quantitative and emphasizes the solving of problems. Mechanics and electromagnetism are treated in detail in 211 and 212, respectively. Brief treatment of optics and modern physics is usually included. Co-requisite for 211: Mathematics 116. Lecture, three hours; Laboratory, two hours.

301. Thermodynamics.

3 cr.

This is an intermediate level course covering the fundamental principles of thermodynamics, kinetic theory and statistical mechanics. The following is a partial list of items generally included: temperature, thermodynamic systems, work, heat, the first and second laws of thermodynamics, ideal gases, entropy, Maxwell's equation, the kinetic theory of

ideal gas, and the basic concept of statistical mechanics. Prerequisites: 212, Mathematics 215.

306. Applied Electronics Laboratory.

2-3 cr.

This course seeks to combine a treatment of the principles of modern electronic instrumentation with practical laboratory experience. Topics which will be included are: passive and active electronic components, electronic measuring instruments, power supplies, amplification, feedback and control, linear and digital devices. Emphasis will be on understanding instrumentation rather than on advanced principles of design. Prerequisite: Permission of instructor.

329. Advanced Laboratory I.

1 cr.

This course is designed to acquaint the students with the basics of modern electronics to the extent that the student will have a sufficient background to design and use simple electronic circuits in future research. A set of experiments is performed and analyzed by the students. Subjects covered include: Discrete Component Electronic Circuits and Measurements, Binary numbering system, Gating Circuits, Boolean Algebra, Digital decoding, multiplexing and sequencing, flip-flops, counters, digital wave generation and shaping, elapsed time measurement and shift registers. Prerequisite: 212 or 202 and consent of instructor.

330. Advanced Laboratory II.

1 cr.

A continuation of Advanced Laboratory I which includes the following: Random Access Memory, Analog to Digital and Digital to Analog Conversion, Operational Amplifiers, Active Filters, Function Generators and practical applications of digital circuits including some computer interfacing. Prerequisite: 329 or consent of instructor.

361. Mechanics.

4 cr.

An intermediate level theoretical classical mechanics involving concepts and problems that cannot be understood except by using the mathematical language of vectors, calculus, matrices, etc. Many of the mathematical tools will be reintroduced in the course. A good calculus background is indispensable. The topics normally covered are motion of a particle in 3-dimensions, non-inertial systems, central force systems, dynamics of many particles and rigid bodies and Lagrangian mechanics. Prerequisites: 212, Mathematics 215.

372. Electromagnetism.

4 cr.

An intermediate course for the science and engineering students. The following topics will usually be discussed: electrostatics, energy relations in electrostatic fields, dielectrics, currents and their interaction, magnetic properties of matter, AC circuits, Maxwell's equations, and electronic radiations. Prerequisites: 212; Mathematics 215.

402. Optics.

3 cr.

This course introduces the student to the principle of geometrical and physical optics. Topics may

include: reflection, refraction, diffraction, polarization, matrix techniques in lens system design, basic quantum optics and the laser. Prerequisite: 212 or 202 and the consent of the instructor.

405. Acoustics. 3 cr.

A course which presents the physical principles underlying the production, propagation, and perception of sound. No mathematical preparation beyond high school algebra is necessary.

419. Introduction to Micro and Mini Computers. 3 cr.

An introduction to the designs of micro and mini computers. Exploration of assembler and specialized languages for small computers. Prerequisites: 201 Machine Language Programming and 301 Computer Logic.

425. Microcomputer Laboratory. 3 cr.

A "hands-on", laboratory course in the use of single board microcomputers for interfacing and control. This course introduces the student to those concepts of discrete and digital electronics that relate to the use of these concepts for interfacing the microcomputer with the "real", analog world. Some of the topics covered are: assembly language programming for an 8085 microprocessor, use of parallel and serial I/O ports, analog to digital and digital to analog conversion techniques, motor speed control, and process control. Prerequisites: Physics 419, or consent of the instructor.

426. Problems in Microcomputers. 1-4 cr.

Special topics and problems in microcomputers, microcomputer interfacing circuitry and related subjects suitable for independent work. Prerequisites: Physics 419, or consent of the instructor.

427. Robotics. 3 cr.

This is an introductory course that deals with robotic controllers, programming, operational aids, drive systems, interfacing, end effectors, sensors and robotic applications. Prerequisites: Physics 211 and 212, or Permission of the Instructor.

430. Advanced Research. 2 cr.

This is a *one year* course in which the student selects a research project, develops it, and prepares a report on the results. The student is also required to present results of his work at a department seminar or in an appropriate scientific meeting if deemed advisable. A research topic is selected from those suggested by members of the Physics Department or other science faculty members. Work is carried out in close coordination with the selected advisor, although all work must be the student's own. No grade is given at the end of the first semester but a final grade is assigned at the completion of the project in the Spring Semester.

473. Atomic Physics. 3 cr.

This course provides an introduction to special relativity and quantum theory with applications drawn mainly from modern theories of the atom. Topics

usually included are quantum theory of heat radiation, the uncertainty principle, quantum theory of the hydrogen atom, many-electron atoms, atomic spectroscopy. Prerequisite: 212.

483. Nuclear Physics. 3 cr.

Experimental and theoretical aspects of the atomic nucleus are discussed. The topics presented may include: two-nuclear systems, radioactivity and modes of decay, radiometric dating, interaction of radiation with matter, nuclear structures and reactions, and nuclear fission. Prerequisite: 212 or 202 and consent of the instructor.

474, 484, 485, 486.

Special Topic Courses. 1-3 cr. each

These courses are designed to allow the Physics Major flexibility in designing his/her program. These courses are offered irregularly and at times when there is sufficient student demand to justify the offering of the course.

The courses offered include: 474 Quantum Mechanics (please note that the department will accept Graduate Chemistry 537, Quantum Chemistry, in lieu of the Quantum Mechanics Course.), 484 Introductory Solid State Physics, 485 Relativistic Mechanics and 486 Shop Techniques. Descriptions of these courses follow.

474. Quantum Mechanics. 3 cr.

A basic introduction to the dynamics of quantum phenomena. Some of the topics covered are Schrodinger Equation, oscillators, hydrogen atom, linear operators, Hermitian Matrices, observables, conservation theorem, spin, angular momentum and perturbation theory. The course will emphasize application to simple systems. Prerequisites: 212; Mathematics 215.

484. Introductory Solid State Physics. 3 cr.

Bulk properties of materials are discussed with both the phenomenological and microscopic approaches. Typical topics are the geometric structure of solids, waves and diffractions, thermal properties, the free electron model, band theory, superconductivity, magnetic properties and magnetic resonance. Prerequisites: 212 and consent of instructor.

485. Relativistic Mechanics. 3 cr.

This course is an introduction to the Special and General Theories of Relativity. A list of topics which may be discussed are absolute space, Einsteinian Kinematics, Einsteinian Optics, spacetime and four-vectors, relativistic particle mechanics. Prerequisites: 212, Mathematics 215.

486. Shop Techniques. 1 cr.

A basic introduction to machine shop practices necessary to experimentalists in all fields. Some of the areas covered are: shop equipment and its use, materials, soldering and welding techniques, mechanical drawing and schematics, electronics construction techniques and practical application.

- 487. Problems in Physics.** 1-4 cr.
Special topics and problems in physics and related subjects suitable for independent work.
- 488. Advanced Problems in Physics.** 1-4 cr.
Problems of a more sophisticated nature.
- 489. Problems in Health Physics.** 1-4 cr.
Special topics and problems in health physics and related subjects suitable for independent work.

DEPARTMENT OF POLITICAL SCIENCE

Chairperson:

Kent F. Moors, Ph.D.

Professors:

Robert E. Beranek, Ph.D.

Kent F. Moors, Ph.D.

Harold Webb, Jr., Ph.D.

Associate Professor:

Patricia Dunham, Ph.D.

Assistant Professors:

Dr. Tari Renner, Ph.D.

Dr. Charles T. Rubin, Ph.D.

Political science studies the political ideas, institutions, behavior, values, and goals of human collective life. The department stresses an understanding of political life as a necessary complement to the study of human existence. Through an awareness of, and appreciation for, the similarities and differences among political structures and political tasks, political actors, systems of law, political ideals and thought, and the ways by which political activity relates to the dimensions of life as a whole, the student becomes familiar with the political as an expression of deeper and more fundamental considerations. Students in the Department of Political Science are introduced to both the normative and empirical methods of analyzing political life.

Political science majors are prepared for careers in government and administration, teaching, private enterprise, and for further study in graduate and law school programs.

REQUIREMENTS FOR THE MAJOR

Thirty semester hours beyond 101 are required for a major in political science; these credits must include 201, 208, 245, 317 or 318, and 490 or 491.

A student transferring to Duquesne from another College or University may receive a maximum of 12 transfer credits applied to their major requirement.

REQUIREMENTS FOR THE MINOR

Fifteen semester hours beyond 101 are required for a minor in political science. Students can design personalized concentrations in consultation with the departmental faculty.

A maximum of 6 transfer credits can be applied to the minor requirement.

- 101. Introduction to Political Science.** 3 cr.
An investigation of the most fundamental concepts involved in the study of political society.
- 201. American National Government.** 3 cr.
The institutional structure and policy-making processes of national government are examined as reflections of the assumptions of liberal democracy and of the American social and economic systems. In addition to the three branches of government, political parties, interest groups and elections are considered.
- 202. State and Local Government.** 3 cr.
A study of the position of the state and local governments in the Federal Union.
- 208. Comparative Political Systems.** 3 cr.
A systematic, multifocused analysis of selected political systems.
- 245. International Relations.** 3 cr.
A study of the major factors involved in international relations including such concepts as sovereignty, nationalism, balance of power, and international law and organization.
- 290. American Political Thought.** 3 cr.
An analysis of the issues which have played a fundamental role in American Politics, from colonial church-state problems, to modern liberalism and conservatism.
- 302. Soviet Foreign Policy.** 3 cr.
An analytical study of the development of Soviet foreign relations with special emphasis on the post-Stalinist era.
- 314. Public Policy.** 3 cr.
An examination of the programmatic results of government action, with emphasis on how and why particular policy options are pursued.
- 317, 318. Western Political Thought.** 3 cr. each
A study of political ideas as distinct from and yet related to political institutions which constitute our perennial western political heritage. 317 considers theorists from the classical period to the early 16th Century. 318 considers theorists from the late 16th Century to the late 19th Century.
- 320. United States Foreign Policy.** 3 cr.
A study of American foreign policy since the Second World War, with emphasis on the central present issues and the domestic sources of foreign policy.
- 321. Government and Politics of Eastern Europe.** 3 cr.
An analysis of political developments in the communist regimes of Eastern Europe with special emphasis on relations between the USSR and Eastern Europe in the post-Stalinist era.
- 322. Government and Politics of the USSR.** 3 cr.
An intensive analysis of the origin and evolution of the Soviet political system.

323. Constitutional Law: Federalism. 3 cr.

A detailed examination of Supreme Court cases concerning the nature of American federalism—Congressional and Presidential power, commerce clause, state powers, judicial review, due process clauses, and apportionment. Students are introduced to court and appeals procedures, the reading and briefing of court decisions, and the nature of the court review process.

324. Constitutional Law: Civil Liberties. 3 cr.

A detailed analysis of Supreme Court decisions bearing upon Bill of Rights guarantees, with specific reference to the freedoms of speech, press, assembly, the dimensions of search and seizure, right of legal counsel, equal protection and due process rights, voting rights, and the adjudication of the fourteenth amendment application of rights to state action.

325. Constitutional Law: Criminal Law. 3 cr.

This course will consider appellate cases in criminal rights, and major aspects to criminal procedure. As with the Constitutional Law courses, it is a case approach. Students will read court decisions and will develop familiarity with briefing cases.

335. The Mass Media and Politics. 3 cr.

A study of the mass media and its nature, role and impact on U.S. politics. The emphasis will be on the mass media as instruments of political communication and opinion leadership.

340. American Political Parties. 3 cr.

An intensive study of the roles of interest groups and political parties in the decision-making processes of the American system of government with attention devoted to the internal dynamics of these institutions.

376. Voting and Election Behavior. 3 cr.

An examination of the determinants of opinions and political beliefs, political participation and voting behavior; the significance for democratic government of findings in these areas.

400. The American Presidency. 3 cr.

A study of the role of the President at the center of the decision-making process in the American political system.

401. The American Congress. 3 cr.

An investigation of the operation of the Congress of the United States within the American system of government.

408. Theory of Comparative Government. 3 cr.

An examination of the basic theories and concepts in contemporary approaches to comparative political systems.

412. International Law and Organization. 3 cr.

A survey of the historical development and present role played by international law in the world community and the formation and operation of such organizations as the United Nations and its specialized agencies.

415. Ethics and Policy Making. 3 cr.

A study of how government action reflects debates about the meaning of justice and the political good, and whether there are special moral obligations that fall on public servants.

420. Contemporary Political Thought. 3 cr.

A study of central topics in political thought from Marx to the present time.

425. War and Peace in the Nuclear Age. 3 cr.

An analysis of the grave threat to world peace posed by nuclear weapons and the arms race. Special attention will be given to the political, ideological, and ethical dimensions of the arms race.

430. Internship in Practical Politics. 4 cr.

A work and observation experience in government and political offices at the city, county, state and national levels in the Pittsburgh area. Permission of department required.

436. Advanced Seminar. 3 cr.

A detailed analysis of a selected topic.

450. Workshop—International Studies. 3 cr.

An intensive one-week interdisciplinary summer school course. This course presents politics, foreign policy, culture, religion, and social problems of Third World Countries. Several outside speakers augment Duquesne faculty.

490. Senior Seminar. 3 cr.

Open to seniors and advanced juniors only. An in-depth consideration of selected topics in the discipline.

491. Research Methods in Political Science. 3 cr.

A study of the techniques of scientific inquiry into political phenomena including research methods, data collection, analysis and interpretation.

DEPARTMENT OF PSYCHOLOGY*Chairperson:*

Richard T. Knowles, Ph.D.

Professors:

Anthony Barton, Ph.D.

Constance Fischer, Ph.D.

William Fischer, Ph.D.

Richard T. Knowles, Ph.D.

Rev. Edward Murray, C.S.Sp., Ph.D.

Rolf von Eckartsberg, Ph.D.

Associate Professors:

Charles Maes, Ph.D.

Paul Richer, Ph.D.

Assistant Professors:

Charles Brice, Ph.D.

Michael Sipiora, Ph.D.

Eva Simms, Ph.D.

Sidney White, Ph.D.

Instructor:

J. Scott Staples, M.A.

The undergraduate program of the Department of Psychology is designed 1) to introduce and familiarize students with the fundamental content, issues, and interests of various areas of psychology and critically evaluate and reformulate these in the context of psychology as a human science; 2) to foster intellectual and personal freedom and critical thinking as essential to the humanizing process; 3) to prepare the professionally oriented student for advanced study; 4) to provide a foundation for careers involving human services. To these ends, the department offers a wide variety of courses covering psychology conceived as a human science, a natural science, and within a historical perspective. Further study in graduate school prepares students for careers in mental hospitals, schools, mental health and social welfare agencies, business and industry. In our rapidly changing society the demand for professionally trained psychologists is increasing.

While the department believes that human scientific psychology is the most viable and encompassing approach to the study of the person, it also realizes its responsibility to expose its students to other psychological approaches. Hence, every major who plans to enter graduate school in psychology is strongly encouraged to take advantage of the offerings in sister universities through the procedure of cross-registration.

REQUIREMENTS FOR THE MAJOR

The major program consists of 103-Introduction to Psychology plus a minimum of 24 semester hours. These credits must include 220 and 223. Majors desiring to pursue graduate study in psychology are strongly advised to take six *additional* credits through cross-registration at other universities (Learning Theory, Experimental, Perception, Memory, etc.), and Statistics (225 Fundamentals of Statistics offered by the Mathematics department may be considered part of the mathematics/science requirement). Finally, it is recommended that majors enroll in a hospital or community practicum for credit, and/or do volunteer work in a neighborhood clinic. Three credits earned in practicum count toward the 24 required credits; an additional three credits in practicum may be earned above and beyond the required minimum of 24. Information about such opportunities can be obtained from the department secretary. Prospective majors should consult the departmental secretary concerning the special procedure followed for the declaration of the major. A minimum of 15 credits in psychology exclusive of practicum must be taken at Duquesne University for the major.

REQUIREMENTS FOR THE MINOR

Requirements for a minor are 103 and 223 and any three of the following: 225 or 226, 280, 328, 340, 352, 361, 390; 400 level courses may be taken for the

minor with permission of the department head. A minimum of nine credits in psychology must be taken at Duquesne University for the minor.

COUNSELING SERVICES

Personal counseling services are available to all students at the Psychology Counseling Center located at the Chapel end of Centennial Walk.

103. Introduction to Psychology. 3 cr.

(Prerequisite to all courses)

Introduction to fundamental concepts and methods of psychology, examined from both traditional and phenomenological perspectives. Prerequisite for all other departmental courses.

220. Systematic Psychology. 3 cr.

For majors only. Traditional approaches (behavioristic, physiological, psychoanalytic) to sensation, perception, learning, and motivation. Required for majors.

223. Introduction to Existential Phenomenological Psychology. 3 cr.

Introduction to a human-science alternative to psychology as a natural science. Prerequisite for 356 and 410; required for majors and minors.

225. Developmental Psychology I (Infancy and Childhood). 3 cr.

Growth and development of the child, with emphasis on personality development.

226. Developmental Psychology II (Adolescence and Maturity). 3 cr.

Development from adolescence, through adulthood, to coping with death.

230. Psychology of Community Experience. 3 cr.

Experience of community phenomena, e.g., individuals versus group priorities, intimacy vs. privacy.

280. History of Psychology I. 3 cr.

Overview of figures and issues in the history of psychology, from precursors to present.

328. Psychology of Personality. 3 cr.

Critical examination of major theories of personality.

340. Social Psychology. 3 cr.

Foundations of social processes, attitudes, values and roles, public opinion, propaganda and communication, personal participation in society.

352. Abnormal Psychology. 3 cr.

Examination of theories and data on disorders of human existence.

356. Research Psychology: Theory and Practice. 3 cr.

Review of theory and practice of traditional and human-science research. Includes student project. Prerequisite: 220, 223; permission of department head for non-majors.

61. Psychology of Identity and Fulfillment. 3 cr.

The ways in which identity is lived individually and collectively. Designed to be personally relevant to the life of the student. Open to juniors and seniors only.

70. Psychology of Aesthetic Experience. 3 cr.

Theoretical and empirical explorations of aesthetic experience.

90. History of Psychology II. 3 cr.

Intensive study of selected historical figures, in dialogue with contemporary themes. Reading of primary sources. Prerequisite: 280.

91. Applied Psychology Practicum. 3 cr.

An applied psychology setting provides opportunity for working directly with professionals. Settings have included psychiatric hospitals and community centers. Majors only; permission of Department head. Repeatable once.

92. The Individual and His/Her World. 3 cr.

Examination of individual's relation to society, from developmental and cross-cultural perspective.

93. Principles of Psychoanalytic Thought. 3 cr.

Examination of the times and contributions of Freud and selected other major psychoanalytic theorists. Permission of department head for non-majors.

94. Psychology of Language and Expression. 3 cr.

Communication as a life embodied relation of person to world and others. Emphasis is on phenomenological theorists. Permission of department head for non-majors.

10. Advanced Existential-Phenomenological Psychology. 3 cr.

Detailed investigation of selected works in existential-phenomenological philosophy and psychology. Prerequisite: 223. Permission of department head for non-majors.

32. Gestalt Psychology. 3 cr.

Contributions of Gestalt psychology (especially the works of Kofka, Kohler, and Goldstein) to traditional and human-science psychology. Permission of department head for non-majors.

50. Contemporary Issues in Clinical Psychology. 3 cr.

A human-science examination of the approach, methods, data, and current issues of clinical psychology. Permission of department head for non-majors.

57. Independent Studies. 3 cr.

A tutorial course for an exceptional student who wishes to pursue a particular study with a faculty member. For majors only; usually those intending graduate study; advanced coursework completed. Permission of faculty member and department head required.

490. Special Topic. 3 cr.

A visiting professor presents his/her specialty, or a regular faculty member presents highly specialized studies or an experimental course. Repeatable. Prerequisites vary with the instructor. Permission of department head for non-majors.

DEPARTMENT OF SOCIOLOGY*Chairperson:*

Eleanor V. Fails, Ph.D.

Professors:

Eleanor V. Fails, Ph.D.

Michael Kupersanin, Ph.D.

Associate Professors:

Norma Feinberg, Ph.D.

Charles F. Hanna, Ph.D.

Joseph D. Yenerall, Ph.D.

Assistant Professors:

Mary Frances Antolini, M.A.

Karen McElrath, Ph.D.

Lecturers:

Lee Frank, M.A.

Ronald Freeman, M.A.

Eric Joy, M.A.

Patrick J. Moore, M.A.

Linda Nelson, M.A.

Raymond A. Novak, J.D.

James L. Walney, M.A.

Professor Emeritus:

Chester A. Jurczak, Ph.D.

Undergraduate instruction in sociology has as its primary commitment the intellectual development and preprofessional training of sociology majors. At the same time, we focus on the contribution of the discipline to the liberal education of the student, regardless of his/her major. The pursuit of excellence in value-building and service orientation articulated in the Mission and Goals statement of the University has been and continues to be the foundation on which our curriculum is built.

REQUIREMENTS FOR THE MAJOR

A minimum of 30 semester hours will be required for the major. These must include 200-201 and 300-301 in addition to required courses within the selected concentration. The remaining credits are to be scheduled in consultation with the student's faculty advisor. A self-designed program combining concentrations may also be developed with the approval of the student's advisor. A maximum of six credits earned in 450, 451, 454, 455 will count toward the 30 required.

CONCENTRATIONS

584. Sociology: This concentration is designed for the "generalist," the student preparing for advanced study in sociology and certain "double majors." Required courses: 200, 201, 300, 301. 12 of the remaining 18 credits must be taken within the Sociology sequence.

585. Criminal Justice: This program provides the student with the opportunity to develop knowledge and skills in preparation for career pursuits in many areas of criminal justice, including probation, parole, investigation, corrections and research. Required courses: 102, 200, 201, 300, 301. 12 of the remaining 15 credits must be taken within the Criminal Justice sequence.

586. Human Services/Gerontology: This concentration provides the preprofessional training and skill development in the general area of human services and in the study of the elderly. Required courses: 103, 200, 201, 300, 301. 12 of the remaining 15 credits must be taken within the Human Services/Gerontology sequence.

REQUIREMENTS FOR THE MINOR

A minimum of 15 semester hours is required for the minor. The minor program is self designed; a faculty advisor should be consulted to assist in the design.

COURSE DESCRIPTIONS

Required Courses:

- 200. Sociological Theories I.** 3 cr.
This course introduces the major or minor to an intensive review of basic sociological principles and the process of theory-building.
- 201. Sociological Theories II.** 3 cr.
A study of selected classical and contemporary theorists and schools of thought. Prerequisite 200.
- 300. Sociological Methods I.** 3 cr.
A discussion and application of the techniques and research procedures used in sociological research.
- 301. Sociological Methods II.** 3 cr.
A study of the construction and application of statistics in social research. Specific attention is given to an introduction to computer uses in the social sciences. Prerequisite: 300.

Additional requirement for Sociology Concentration:

- 101. Survey of Sociology.** 3 cr.
An introduction to the basic concepts, processes, and institutions which are the subject matter of sociology as an academic discipline.

Additional requirement for Criminal Justice Concentration:

- 102. Introduction to Criminal Justice.** 3 cr.
An introduction to the criminal justice system, including police, courts, correctional facilities and community based connections. Open to non-majors.

Additional requirement for Human Services/Gerontology Concentration:

- 103. Introduction to Human Services.** 3 cr.
Survey of the history and areas of social and community services and programs. Open to nonmajors.

Sociology

- 202. Sociology of Social Problems.** 3 cr.
A study of the person-structure-change framework applicable to contemporary social issues.
- 205. Person and Society.** 3 cr.
A study of the person's interaction with societal groups, organizations and institutions.
- 214. Sociology of Child and Adolescent.** 3 cr.
A discussion of the child and adolescent in American society.
- 225. Family Systems.** 3 cr.
A study of the family institution and its interaction with other community institutions.
- 302. Evaluative Research and Planning.** 3 cr.
An analysis and development of techniques for the investigation and evaluation of human services and criminal justice programs. Prerequisite: 300.
- 307. Leisure and Popular Culture.** 3 cr.
A study of the relationship between work, leisure and popular culture; leisure as a social problem will be considered.
- 308. Racial and Ethnic Groups.** 3 cr.
Comprehensive survey of roles performed and problems faced by racial and ethnic groups.
- 315. Social Development — Infancy to Death.** 3 cr.
A study of the socialization process from the infant state to the dying state.
- 316. Social Change.** 3 cr.
A discussion of the theories and techniques of initiating social change.
- 317. Social Stratification.** 3 cr.
A study of status differentiation within various cultures.

Criminal Justice

- 211. Social Deviance.** 3 cr.
A study of the forms and consequences of social deviance and law.
- 213. Delinquency and Society.** 3 cr.
A study of the phenomenon, theories, and causation of juvenile delinquency.
- 216. Criminology.** 3 cr.
A study of sociological explanations of criminality; correlates, causation, and criminogenic conditions.
- 250. Criminalistics I.** 3 cr.
A study of case preparation, questioning of witnesses, collection and preservation of evidence and processing of criminal evidence.

251. Criminalistics II. 3 cr.
A study of the techniques of collecting evidence, fingerprints and the microscopic and laboratory study of firearms, hair, fibers, blood, paints, poisons, and other clues. 250 Criminalistics I is not a prerequisite to 251 Criminalistics II.

264. Police and Society. 3 cr.
An analysis of the role of police in the community, and some of the critical issues in law enforcement.

266. Crime Prevention. 3 cr.
A study of contemporary crime prevention programs involving criminal justice agencies, citizens, and community politics.

310. The Law and the Juvenile Offender. 3 cr.
A survey of those aspects of the legal system that relate to the identification, processing and rehabilitation of the juvenile offender.

311. The Law and the Adult Offender. 3 cr.
A survey of those aspects of the legal system that relate to the identification, processing and rehabilitation of the adult offender.

367. Corrections. 3 cr.
A study of the various goals and processes of corrections.

Human Services/Gerontology

203. Social Gerontology. 3 cr.
An examination of the sociology of aging.

210. Aging Across Cultures. 3 cr.
A study and analysis of the socialization, roles and problem aspects of the process of aging in various cultures.

212. Helping Process. 3 cr.
Discussion of the helping relationship and practice in the techniques of helping.

312. Aging and Social Policy. 3 cr.
An examination of past, present and future social policies related to the aged.

324. Social Aspects of Death and Dying. 3 cr.
A study of American values, behavior, customs and other institutional practices related to dying and death with special attention to older Americans.

350. Therapeutic Techniques. 3 cr.
Discussion and practice in the skills designed for therapeutic intervention.

For All Concentrations

450, 451. Fieldwork I, II. 3-12 cr.
Internship in a criminal justice, social service or gerontology setting. Seniors and Majors only. Prerequisite: 21 completed credits in the major to include 212 Helping Process and 302 Evaluative Research and Planning.

454. Selected Readings. 1-3 credits
Independent, supervised reading in concentrated

area of interest. Prerequisite: 21 completed credits in the major.

455. Senior Seminar. 3 cr.
A seminar designed to serve as a capstone to the student's academic career. Seniors and Majors only. Prerequisite: 21 completed credits in the major.

DEPARTMENT OF THEOLOGY

Chairperson:
Rev. Francis X. Malinowski, C.S.Sp., Ph.D.

Professors:
James P. Hanigan, Ph.D.
Rev. David Kelly, Ph.D.
Marilyn Schaub, Ph.D.
William Thompson, Ph.D.
George S. Worgul, Jr., S.T.D., Ph.D.

Associate Professors:
Rev. Michael Cahill, C.S.Sp., Ph.D.
Rev. Charles Fenner, C.S.Sp., Ph.D.
Rev. William Rademacher, Ph.D.
Rev. Michael Slusser, D. Phil.

Assistant Professor:
Sr. Anne M. Clifford, C.S.J., Ph.D.
Sr. Moni McIntyre, I.H.M., Ph.D. (cand.)

Associate Director Pastoral Ministry:
Sr. M. Paracleta Amrich, SS.C.M., M.A.,
NACC Supervisor

Adjunct Associate Professors:
John W. Hoyt, M.D.
Christopher J. Daly, M.D.
Mark Schmidhofer, M.D.
Stacey A. Hinderliter, M.D.
Elmer Holzinger, M.D.
Charles E. Hollerman, M.D.
Diann M. Westrick, M.D.
Daniel Thompson, M.D.
Rev. Charles S. Bober, S.T.D.
Rev. Frank Sokol, Ph.D.

Adjunct Assistant Professor:
Luisa Coraluppi, Ph.D.

Duquesne's Department of Theology affirms that the academic study of religious experience is essential to a complete education. The Department fulfills its role in theological studies by the pursuit of the following aims: 1) it emphasizes Catholic Theology, in dialogue with other Christian traditions, non-Christian traditions and Judaism, as the key element in Duquesne's commitment to Catholic education on the university level; 2) it acknowledges the fact of the universal search for religious meaning and experience, and seeks not only to offer the possibility of a study of the varying approaches to religious witnesses in history, but also to place Catholic Theology in communion with that quest; 3) it

aspires to a fruitful encounter with other university disciplines, since the department is convinced that theology's concerns are related to all vital human issues.

The Department has organized its courses into four divisions: Biblical Studies, Christian Studies, Roman Catholic Theology, and Selected Religious Studies.

REQUIREMENTS FOR THE MAJOR

The major program consists of a minimum of 27 credits. These must include 106, 213, 214, 220, 250, 498; the remaining credits will be chosen in consultation with the student's advisor.

REQUIREMENTS FOR THE MINOR

A minor consists of four courses.

The department has also prepared suggested sequences which may be helpful to a student wishing to concentrate in a certain area of theology; e.g., Biblical Studies, Roman Catholic Theology, World Religions, Religion and Culture, Christianity in History, etc.

COURSE INFORMATION

The numbering of the course indicates the level of approach.

- 100 These courses are of the basic, survey type, wherein emphasis is on breadth rather than on depth, and serve as background for other courses.
- 200-300 These courses treat of subject matter in a specific area of theology and in greater depth than in the 100 category.
- 400 Selected topics are dealt with at a more advanced level; independent research is required.

Biblical Studies

213. Introduction to the Old Testament. 3 cr.
A presentation of the Old Testament writings in their dynamic context of culture, politics, and geography, as well as an introduction to their literary modes, theologies, and themes.

214. Introduction to the New Testament. 3 cr.
A presentation of the books of the New Testament, including their literary makeup, historical origins and testimony, and theological content; practical approaches in interpreting key passages of the New Testament.

313. Archaeology and the Bible. 3 cr.
An illumination through archaeology of the historical setting, the cultural background, and the events described in the Bible; a general introduction to the techniques of archaeological investigation and a study of the principal archaeological sites in Palestine.

316. The Apostle Paul. 3 cr.
An exposition of Pauline Literature, emphasizing the person of Paul and his impact on the early Church.

321. Jesus in the Gospels. 3 cr.
A portrait of the person of Jesus Christ, based on a study of the 4 gospels, with ample usage of recent scholarship.

413. Theology of the Old Testament. 3 cr.
Examination of the Theology of the various books or blocks of writing in the Old Testament; an attempt to draw together and present the major themes, motifs, and concepts of the Old Testament; a study of the relationship between the Old Testament and the New Testament. Prerequisite: 114 or 213.

414. Theology of the New Testament. 3 cr.
A study of specific themes or books of the New Testament focusing on particular questions of contemporary Christianity. Syllabus will be available in the Theology Office.

490. Field Experience in Biblical Archaeology. 3 cr.
Six weeks of supervised participation in an archaeological excavation in the Ancient Near East; experience in stratigraphic digging, pottery identification, scientific analysis of finds, and recording methods. Offered every two or three years; approval of participants by core staff required.

493. Individual Topics in Biblical Studies. 1-3 cr.
The topics will change regularly and will be published within the department.

Christian Studies In General

235. Christian Worship. 3 cr.
The meaning of ritual and worship in Christianity with special emphasis given to the history of worship and the developments in both Roman Catholic and Protestant worship since the Vatican Council.

243. Religion and Social Issues. 3 cr.
A study of the influence of religious convictions in confronting major social issues of today's world, e.g., population growth, famine, ecology, liberation and revolution, truth as a social issue, wealth, taxation, and stewardship.

260. Protestantism. 3 cr.
An introduction to the thought of the principal reformers: Luther, Calvin, Zwingli, Wesley; a study of speculative and practical forces operative in the fifteenth-sixteenth centuries which gave rise to the reforming movement; the formulation of Protestant Orthodoxy.

271. Eastern Christianity. 3 cr.
A study of the main theological developments in the Eastern Church from the Patristic age on through the medieval times until the modern days as they shape its distinctive spirit and mentality and as they are interpreted in the Eastern Churches.

274. Church History I. 3 cr.

A religious and historical exploration of the growth of Christianity from the first century up to the Reformation; discussion of those issues within the Church and the external forces which brought about major conflict and development.

275. Church History II. 3 cr.

Selected topics in Catholic and Protestant development from 1500 to the present day; special emphasis on the crises, revolutions, and reforms that were central to this development.

345. Women and Christianity. 3 cr.

Survey of the Old and New Testament views of women and a history of the status of women in the Roman Catholic and major Protestant traditions with emphasis on the contemporary role and spirituality of women in Christianity.

351. Sexuality, Sex, and Morality. 3 cr.

An analysis of the nature of sex and sexuality according to the sources and developments of Christian thought; the integration of these concepts into a contemporary moral and ethical system.

352. Human Life and Morality. 3 cr.

A discussion of the fundamental moral principles involved in making any of the "life decisions," the problem of the definition of life; a survey of the varied moral approaches to the issues of war and peace, capital punishment, abortion, birth control, euthanasia, genetic engineering, and the new embryology.

353. Health Care Ethics. 3 cr.

A study of practical and theoretical issues in the ethics of health care. The course is cross-listed in the nursing school and is team-taught by a member of the theology faculty and a member of the nursing faculty. Issues include life and death questions, professional-patient relationships, and moral aspects of the health care professions.

451. War and Peace in Christian Perspective. 3 cr.

An analysis of Christian teaching of the moral permissibility of using violence and participation in war from biblical times to the present, including an evaluation of the varieties of pacifism, of nonviolent resistance, and of just war theories.

470. Christian Mysticism. 3 cr.

A study of the manifold Christian experience of mysticism, i.e., experiential contact with God, as seen in famous exemplars of mystical experience, e.g., Jesus Christ, Paul, Ignatius of Antioch, Augustine, John Ruysbroeck, Catherine of Siena, Teresa of Avila, John of the Cross, Venerable Liberman.

494. Individual Topics in Christian Studies. 1-3 cr.

The topics will change regularly and will be published within the department.

Roman Catholic Theology**106. Faith and Experience. 3 cr.**

An examination of various forms of atheism and an exploration of Christian responses to their challenge; a study of the meaning of faith and revelation in its history and contemporary expression; an attempt to answer the question of faith's reasonableness.

108. Catholicism. 3 cr.

An explanation of the spirit, beliefs and practices of Roman Catholicism including its understanding of sacramentality, mediation and communion; a study of the Roman Catholic classics and issues confronting Roman Catholicism.

220. The Mystery of Christ. 3 cr.

A study of the person and meaning of Christ in historical and contemporary perspective; a discussion of the new bond between God and humanity and the new era in the spirituality of humanity inaugurated by the Incarnation and the Passion-Death-Resurrection event.

230. The Church. 3 cr.

A study of the Christian community of believers in its origins, some of its major historical and dogmatic emphases, and its contemporary understanding of itself; the Church as a mystery, as Mystical Body, as People of God, as sacrament.

242. Contemporary Theological Issues. 3 cr.

An examination of theological developments in an era of renewal, reevaluation, and cooperation; e.g., belief and unbelief; Christian and secular humanism, the future with reference to hope, heaven, hell, afterlife, and resurrection; sin in a secular age; suffering and evil.

250. Conscience and Morality. 3 cr.

A catholic perspective of the basic issues involved in the formulation of moral values with the developing person, and of the sources upon which moral systems are based; a discussion of the absolute vs. the relative, traditional morality vs. "the new morality," and application of these principles to modern problems.

256. God and His Meaning. 3 cr.

A theological understanding of the problems of God; a consideration of the responses of various religions and philosophies to this problem; the origins and development of the theology of God in the Judaeo-Christian tradition with special focus on Catholic development.

301. Marriage. 3 cr.

A personally-oriented and practical treatment of the marital union as seen in its Christian theological, psychological, and sexual aspects; a discussion of Christian marriage as a bond of love, as a sacrament, and as a way of human fulfillment.

331. The Church in the Modern World. 3 cr.

An analysis of the Church's role in human development today and in offering solutions to present

problems of humanity in light of Vatican II's "Pastoral Constitution on the Church in the Modern World" and other related documents.

335. Theology of the Sacraments. 3 cr.

A practical treatment of the seven sacraments in relation to their significance for the Christian's daily spiritual growth and fulfillment; consideration of human needs for ritual and symbol; discussion of recent revisions and developments in sacramental theology.

475. Theology and Catechesis. 3 cr.

An examination of the principal theological and pedagogical themes of modern religious education, and of the place of catechesis in the ministry of the Church; a presentation of the historical background of the contemporary catechetical renewal.

491. Experience in the Teaching of Religion. 6 cr.

One semester of supervised experience in teaching religion in a high school environment in conjunction with a cooperating high school teacher and University Department coordinator. This course is open only to majors in Theology upon approval of the Chairperson of the Department.

495. Individual Topics in Roman Catholic Study. 1-3 cr.

The topics will change regularly and will be published within the department.

498. Seminar in Theology. 3 cr.

A critical analysis of selected topics in theology or of selected works by outstanding theologians; open only to juniors and seniors with a major or minor in theology.

Selected Religious Studies

180. Religious Experience. 3 cr.

An examination of the dimensions of mankind's religious experience, e.g., mystical, ritual, mythical, ethical, and scriptural; an analysis of the likeness and differences of how the Divine is sensed and responded to in varied geographical, cultural, and chronological contexts.

240. Studies in Black Theology. 3 cr.

An examination of the dimensions of the religious experience of Black Americans, e.g., its history, its relationship to African origins, to slavery, to racism, to Christian denominations; an analysis of special elements in that experience; e.g., Black Churches, preaching, music and the "American Way of Life."

283, 284. Judaism: People & Faith. 3 cr. each

A survey of modern Jewish history to discover roots and traditions of the Jewish people in American, Israel and the Soviet Union ... view of the Holocaust and its effects on world Jewry. The faith, beliefs and practices of Jewish life today. (This course is sponsored by the Chautauqua Society.)

372. Religious Themes in Literature and Film. 3 cr.

An exploration of religious experience and religious concepts as expressed in significant worlds in film and literature, including themes concerning human person's relationship to self, others, and to God.

496. Individual Topics in Religious Studies. 1-3 cr.

The topics will change regularly and will be published within the department.

School Of Business and Administration

Administration:

Acting Dean:

Bernadine Meyer, Ed.D., J.D.

Associate Dean:

Thomas A. Pollack, Ph.D.

Assistants to the Dean:

Cynthia Boyer, B.S.B.A.

Emily Camesi, M.B.A.

Chairperson(s):

Robert Borman, M.B.A., C.P.A.

Quantitative Sciences Division

William D. Presutti, Jr., Ph.D.

Behavioral Sciences Division

Richard Bond, Ph.D.

Economic Sciences Division

HISTORY

The School of Business and Administration was established in 1913 as the School of Accounts and Finance. The rapid growth of the School necessitated a constant broadening of the curriculum until it covered all business subjects of fundamental importance.

In 1931 it was designated the School of Business Administration and, with this change, definitely became a professional school of business administration.

In 1971 the name was changed to the present designation to indicate broader preparation for activity in organizations of all types.

PHILOSOPHY AND OBJECTIVES

In accord with the educational philosophy and objectives of the University, the School of Business and Administration aims to assist students in their development of the natural and supernatural virtues. The general aim is to provide through the media of instruction and related collegiate activity the facilitation of purposeful character, intellectual accomplishment, emotional and social maturity, and professional efficiency.

The School of Business and Administration has the professional responsibility of developing in students such knowledge of business principles, procedures and problems as will enable them to become self-sustaining members of the community, aware of their social and public responsibilities and dedicated to the enrichment of the resources for worthy living.

It seeks to produce graduates who, upon entering their chosen careers, will be effectively prepared to discharge their obligations to God, their commu-

nity, and themselves as intellectual and moral beings.

The School attains this objective by guiding students through a cultural core program, a business core program, an elective area of advanced business subjects chosen on the basis of professional interests, co-curricular and extra-curricular activities, and established personnel services.

As a division of the University, the School of Business and Administration is obviously dedicated to promoting those University aims and objectives contained in the overall mission statement.

The professional objective of the School of Business and Administration is to produce graduates who have acquired and developed:

1. An appreciation of the importance of initiative and who consequently are willing to assume responsibility, work efficiently and harmoniously with others, and adjust to changing circumstances.
2. A respect for logical thinking and who strive energetically, therefore, to develop the capacities for analytical reasoning through the vigorous and orderly application of ethical and technical principles to problem solving.
3. An understanding of the personal and professional value of effective communications and a cultivation of their capacities for speaking and writing clearly and concisely.
4. An awareness of the important role of quantitative measurements in today's business and who have become skilled in the interpretation of mathematical, accounting and statistical data with computer usage.
5. Sufficient knowledge in a professional area so that they can assume positions of responsibility with a background that will enable them to progress rapidly.

ADMISSION

Students who wish to enroll in the School of Business and Administration should apply through the Office of Admissions. In addition to the regular University admission requirements (see p. 6), students who wish to enroll in the School of Business and Administration should present a good background in mathematics.

Students transferring from a school of business that is accredited by the American Assembly of Collegiate Schools of Business must present an overall quality point average of 2.0 (on a 4.0 scale) or better. For other students including those transferring from another school within the University, a quality point average of 2.25 or better overall and a grade of C or better in all mathematics and business courses are necessary.

If the student wishes to transfer credit for course work in business taken elsewhere at the lower level (freshman and sophomore) when that work is

offered at the upper level (junior and senior) in the School of Business and Administration, the student must first validate such course work by testing. For information about validation by CLEP and qualifying examinations, the student should consult an advisor.

DEGREE

The School of Business and Administration grants the degree of Bachelor of Science in Business Administration. This degree may be awarded to those who satisfy the entrance requirements and complete successfully the School's degree program.

SECOND BACHELOR'S DEGREE

Persons who have received a Bachelor's degree from an approved college or university may be eligible to enter the program for a second Bachelor's degree in Business Administration. A second degree candidate must meet all requirements of the School's degree Program. A minimum of 30 credits must be completed in residency.

THREE-YEAR BACHELOR'S/J.D.

A student who has completed 90 credits at Duquesne University with a 3.5 or better overall average and who has satisfied all undergraduate curricular requirements may apply for the Bachelor's degree after successful completion of the first year of academic work at Duquesne University School of Law. Students interested in this program should consult their advisors in the sophomore year.

EARLY ADMISSION TO MBA PROGRAM—BSBA/MBA

The School of Business and Administration provides an opportunity for students in the School who achieve the Dean's List to apply for early admission to the Master of Business Administration (MBA) program. Provided they receive a satisfactory score on the Graduate Management Admission Test, these students may apply to take certain MBA courses during the senior year. Dean's List students interested in this program should consult their advisors early in the junior year.

EARLY ADMISSION TO MBA PROGRAM—B.S. PHARMACY/MBA

The School of Business and Administration and the School of Pharmacy have a cooperative program that enables qualified pharmacy students to apply for early admission to the MBA program. Pharmacy students interested in this program should consult their advisors.

BUSINESS CERTIFICATE PROGRAM WITH COLLEGE OF LIBERAL ARTS AND SCIENCES AND SCHOOL OF EDUCATION

The School of Business and Administration and the College of Liberal Arts and Sciences and School of Education have developed a certificate program in business for liberal arts and education students. Students in the College and School of Education who are interested in the program should consult the advisors in the School of Business and Administration.

SCHOOL CENTERS

Activity complementing direct instruction takes place in three ancillary units. All function to provide students and faculty with an opportunity for professional development as well as to provide services to the University and the community at large:

Center for Economic Education

The Center is charged with the responsibility of initiating and promoting economic education in the society at large. More specifically it develops and coordinates economic education within the Western Pennsylvania and Tri-State area primarily to upgrade economic literacy and teaching competency in the school system. The Center also conducts economic education programs for clergy, media professionals, and other opinion leaders.

Center for International Management

The objective of the Center is to develop a better understanding of the American involvement in international affairs and business and in management abroad through teaching and research; it is achieved by an interdisciplinary approach.

The areas of current research focus are:

1. Trade expansion between the USA and Eastern Europe.
2. Management in foreign nations.
3. Problems in international business.
4. International economic development with a stress on interaction among developed countries, and on the relationship of developed and less developed countries.
5. International political and legal issues.

The Center has no teaching program of its own; most of its staff are faculty members from various schools and departments of the University or visiting foreign professors.

Center for Real Estate Studies

The objective of the Center for Real Estate Studies is to become a regional education center and to provide students with the necessary background so that they may obtain various professional designations in the field of real estate.

SCHOOL OF BUSINESS AND ADMINISTRATION COMPUTER FACILITIES

The School of Business and Administration operates two large computer laboratories in Rockwell Hall. One laboratory is dedicated to personal computers and their applications across the business curriculum. These personal computers have graphics capabilities and maximum internal memory capacities. The other laboratory consists of terminals which provide on-line access to software and applications associated with the University's mainframe computer system. These two laboratories provide state-of-the-art hardware and software support to students in the School of Business and Administration.

STUDENT ORGANIZATIONS

These student organizations in the School of Business and Administration exist for the promotion of the scholarly and professional interests of members:

The Zeta Chapter of Beta Gamma Sigma, national honorary fraternity for accredited schools of the American Assembly of Collegiate Schools of Business, is established at Duquesne University. Membership in this honorary fraternity is limited to juniors in the highest five per cent of their class and to seniors in the highest 10 per cent of their class.

Beta Alpha Phi is the honorary scholarship society of the school.

Phi Chi Theta is a national professional commerce organization.

American Marketing Association, the student chapter, affords membership to students whose major interests include salesmanship, marketing, advertising, transportation, or foreign trade. A selected group of seniors is permitted, under faculty supervision, to participate in the meetings of the Sales Executives Club of Pittsburgh and the senior chapter of the A.M.A.

Delta Sigma Pi, a national professional business society, is represented by *Theta Rho* chapter.

The Association for Personnel Administration is the student group sponsored by and affiliated with the American Society for Personnel Administration.

Dean's Student Advisory Council, consists of student leaders in the School who meet on a regular basis with the Dean to discuss School matters.

International Business Association, is a student organization for those with interest in careers in the area of international business.

Financial Management Association, is a group whose activities promote the interests of students interested in finance.

Data Processing Management Association - A student chapter of DPMA is an organization for those whose career interests are in the management information systems area.

ADVISORY BOARDS

Advisory Board for Accounting

Joseph D. Seltz, CPA, Arthur Andersen & Co.
Melvin G. Henninger, Bayer, USA, Inc.

Robert J. Schuler, Blue Cross of Western Pennsylvania

William F. Buettner, Coopers & Lybrand
Joan Ellenbogen, CPA, Crawford & Ellenbogen

Anthony M. Pataki, Defense Contract Audit Agency

Mark M. Chain, CPA, Deloitte Haskins & Sells
Betty Arenth, Duquesne University

James R. Blue, CPA, Epstein, Tabor & Schorr
Stephen F. Piskurich, Equitable Resources Inc.

Anthony J. Crisafio, CPA, Ernst & Whinney
Andrew W. Hasley, CPA, Federal Home Loan

Bank

Richard I. Pike, CPA, Hosack, Specht, Muetzel and Wood

Robert Sladack, CPA, Internal Revenue Service

David N. Kaplan, CPA, Kaplan Sipos & Associates

Joseph S. Scherle, CPA, Love, Scherle & Bauer
Donald J. O'Reilly, CPA, Mellon Bank

Timothy G. Sheedy, CPA, NVR Mortgage

Daniel J. Collins, Jr., CPA, Peat Marwick Main & Co.

James R. Kilzer, CPA, Price Waterhouse

John G. Borman, CPA, Schneider Inc.

Harry F. Larkin, Jr., CPA, Schneider, Downs & Co., Inc.

Joseph T. Senko, CPA, Joseph T. Senko & Associates, Inc.

Raymond P. Dimuzio, CPA, Touche Ross & Co.

Robert E. Faust, Westinghouse Electric Corp.

Charles R. Modispacher, CPA, Arthur Young & Company

Advisory Board for Marketing

Joseph Solomon, Blue Cross of Western Pennsylvania

Don A. Collins, Dynamic Growth Inc.

John Welch, Equitable Gas Company

David Peck, Fisher Scientific Company

Eric Theis, Herr-Voss Corporation

Larry Angust, Joseph Horne Company

Bruce Karger, IBM

Michelle Cooper, Mercy Hospital

Alan Ridley, Metacon Corporation

Richard White, Mobay Corporation

Yoshito Tokumitsu, National Steel Corporation

John Vierheller, Register Results

James Bezila, Roerig - Division of Pfizer

George Harris, Susquehanna Management Associates

Richard Wardrop, USX Corporation

Thomas V. Doyle, Westinghouse Electric Corporation

Advisory Board for Management Information Systems

William Buckley, ALCOA
 Richard S. Cuccioli, Authur Andersen & Co.
 Wayne R. Maue, Blue Cross of Western Pennsylvania
 Russel Zemba, Consolidation Coal Company
 Lester Shindelman, Coopers & Lybrand
 John A. Armstrong, Consolidated Natural Gas Company
 Regis F. Zebroski, H. J. Heinz Company
 Dean McCallister, Koppers Company, Inc.
 John G. Crandall, Legent Corporation
 David Moore, Mellon Bank
 Jay Shock, Mobay Corporation
 Richard S. Brzenk, National Steel Corporation
 Kenneth P. Leckey, Jr., Pittsburgh National Bank
 J. R. McAfee, USX Corporation
 Edward J. Reis, Westinghouse Electric Corporation

Advisory Board for Real Estate

Ray R. Barone, Barone & Sons, Inc.
 Oliver E. Shoemaker, Carey, Karmar, Pelusi & Co.
 F. Lynn Foltz, FFV Realty
 Robert Gelman, Gelman Real Estate Service and Appraisals
 Howard W. Hanna, III, Howard Hanna Company
 Carl Grefenstette, The Hillman Company
 J. William Cotter, Jr., T. A. Title Insurance Company

DIVISIONS AND ACADEMIC PROGRAMS

The School of Business and Administration is comprised of three Divisions: Quantitative Science; Behavioral Science; and Economic Science.

Students entering the School of Business and Administration are expected to inform their advisors about their career objectives and their academic areas of concentration, and to consult with them when choosing junior and senior courses indicated in any of the three Divisions. Their proposed curriculum choices must, of course, include the University requirements and Business and Administration Core requirements as indicated in the illustrations set forth in this catalog. Students are strongly encouraged to include coursework in speech/communications and in advanced writing in their programs. Regulations for certification in Accounting make the program very rigid; this is dealt with in the section describing the accounting curriculum on the following pages.

Recommended programs of study for students interested in finance, human resource management, international business, law administration/pre-legal studies, management, management information sys-

tems, marketing, and real estate are listed on the pages that follow dealing with those curricula.

Students' concentrations should be based upon career objectives and constitute as broad and flexible an educational process at the undergraduate level as is possible. Career advice should be sought from many and varied sources in the University, including faculty.

Guide for Business Students

Course suggestions for all business programs can be found in the Guide for Business Students, available from advisors. This publication also contains information about academic and registration policies.

FOUR YEAR SAMPLE PLAN

(Effective September 1989)

Freshman Year			
Fall Semester		Spring Semester	
Courses	Credits	Courses	Credits
101 Thinking and Writing Across the Curriculum	3	102 Imaginative Literature and Critical Writing	3
109 College Algebra	3	111 Calculus	3
†181 Intro to Computers	3	†182 Microcomputer Software Applications	3
Core Curriculum Requirement ¹	3	Core Curriculum Requirement ¹	3
Core Curriculum Requirement ¹	3	Core Curriculum Requirement ¹	3
	15		15
Sophomore Year			
Fall Semester		Spring Semester	
Courses	Credits	Courses	Credits
†211 Intro Accounting I	3	†212 Intro Accounting II	3
†221 Prin of Economics I	3	†222 Prin of Economics II	3
†281 Prob & Stats I	3	†282 Prob & Stats II	3
†251 Legal Process	3	Core Curriculum Science Req ³	3
Core Curriculum Theology Req ²	3	Non-business elective	3
	15		15
Junior Year			
Fall Semester		Spring Semester	
Courses	Credits	Courses	Credits
†361 Prin of Management	3	†Intro to Decision Sciences	3
†371 Prin of Marketing	3	Major Area of Concentration	3
†331 Business Finance	3	Major Area of Concentration	3
Non-business elective ³	3	Major Area of Concentration	3
Non-business elective ³	3	Secondary Area of Conc ²	3
	15		15
Senior Year			
Fall Semester		Spring Semester	
Courses	Credits	Courses	Credits
Major Area of Concentration	3	Major Area of Concentration	3
Major Area of Concentration	3	Major Area of Concentration	3
Secondary Area of Conc.	3	Major Area of Concentration	3
Secondary Area of Conc.	3	Secondary Area of Conc.	3
Non-business elective	3	491 Exec-Action/492 Policy	3
	15		15

*CLEP test available for these courses.

- ¹Core Curriculum courses: (Freshman Year) interchangeable
- 131 Bases of Human Thought and Action
 - 141 Social Political and Economic Systems
 - 151 The Shaping of The Modern World
 - 161 The Arts and The Human Experience

- ²Core Curriculum courses: (Sophomore Year)
- | | |
|--|---------------|
| 183 Judeo Christian Religious Traditions | 171 Biology |
| 184 Intro to The Bible | 172 Chemistry |
| 185 Religions East/West | 173 Physics |
| 186 Roman Catholic Heritage | |

³Courses may be taken either semester.

⁴Business Core Curriculum

Students registering for 300-400 level business courses must have successfully completed 60 credits and have junior standing. STUDENTS ARE RESPONSIBLE FOR KNOWING THE PREREQUISITES FOR THOSE COURSES IN WHICH THEY ARE REGISTERED.

ACADEMIC REGULATIONS

ACADEMIC LOAD

Students may normally carry five courses in one semester. A schedule of more than five courses or 15 credits must be approved by the Dean. In the summer sessions, students normally carry one credit a week; i.e., six credits in the six-week session. A 12-credit schedule in a regular semester is considered full-time study. Students on academic probation may not take more than 12 credits.

EFFECTIVE CATALOG

Degree requirements are those stipulated in the catalog of the year in which a student matriculates. The student is responsible for knowing the requirements for the degree. Requirements may be changed without notice or obligation. This catalog has been prepared on the best information available as of February 1990.

CLASS ATTENDANCE

Regular class attendance in the School of Business and Administration is normally required for maximum educational advantage. The responsibility for all course material rests wholly with the student. It is the prerogative of each instructor to establish specific policies for attendance at test, examinations, class lectures, deadlines for reports, and other specific school or course requirements.

A student who is unable to attend class because of serious illness, hospitalization, a serious accident or other extenuating circumstances is responsible for notifying the student's advisor. The student should supply a written verification as soon as possible. A student who is absent for cause is expected to complete all of the work in all courses. It is the student's responsibility to make up all assignments in all courses and to be familiar with any instructions which may have been given during the absence.

HANDICAPPED STUDENTS

Handicapped students requiring special assistance are urged to notify the class instructor or the student's advisor before the first class.

Enrollment in Business Courses by Students in Other Schools of the University

Students enrolled in other schools in the University are welcome to take business courses provided they meet all prerequisites. Under no circumstances, however, may a student in another school take more than 24 credit hours in business. Students in the College of Arts and Sciences who wish to take business courses should follow the business certificate program established by the two schools. Students should consult their advisors in this matter.

Prerequisites—Upper Level Business Courses

In addition to any specific prerequisites that are listed in the course descriptions, all freshman and sophomore required business courses must be completed before the student may enroll for upper level business courses; that is, those business courses numbered in the 300's and 400's. The student must also have completed 60 credits or more. This requirement applies for all students, whether they are enrolled in the School of Business and Administration or in any of the other schools in the University.

Frequency of Course Offerings

The frequency of course offerings included in each course description is a guide only. Changes can occur as student demand warrants.

DIVISION OF QUANTITATIVE SCIENCE

ACCOUNTING CURRICULUM

The accounting faculty recommends that students concentrating in accounting take Accounting 211, 212, 311, 312, 314, 315, 411, 412, 413 or 485 and 251-Legal Process, as well as at least one of the following: Law 353, 354, 355 and 454. It is recommended that the student achieve an overall B average in Accounting 211, 212 before attempting Accounting 311 and a minimum grade of C in both 311 and 312 before attempting the remaining 300 and 400 level courses.

Computer and management information systems courses recommended for accounting students are: 481, 485.

CPA Requirements

Students who desire to become certified public accountants in Pennsylvania and who have been graduated from a four-year program in a college

approved by the State Board of Education may sit for the CPA examinations. The degree program of the University is so approved.

Graduates may sit for the CPA examination in other states, among which are New Jersey and New York.

COURSE PREREQUISITES — see p. 95.

211, 212. Introductory Accounting. 3 cr. each

An introduction to the language of accounting, basic accounting concepts and brief exposure to recording financial information. An extensive study is made of accounting information for management decisions. Offered every semester.

311, 312. Intermediate Accounting. 3 cr. each

This course is primarily concerned with an investigation and analysis of the accounting problems and practices of the corporation, with detailed study of the component elements of the balance sheet and income statement. Basic topics are: accepted and alternative methods in the accounting cycle; financial statements, their form, content and use; accounting problems of the corporation; detailed analysis of the balance sheet accounts; determination of net income; statement of source and uses of working capital. Prerequisites: Accounting 211, 212. Offered every semester.

313. Managerial Accounting. 3 cr.

A study of the technique involved in the gathering, recording and interpretation of accounting and statistical data used in the solution of internal problems of management. Some of the topics covered are: construction, analysis and interpretation of reports; establishment of production, operating and financial standards; measurement of managerial performance; use of budgets in managerial control; use of cost data and interpretation of cost reports; use of quantitative data in the formulation of policies; consideration of various aspects of Federal, State and local taxes and their effect on managerial decisions. **Recommended for non-accounting students.** Prerequisites: Accounting 211, 212. Offered every semester.

314. Advanced Accounting. 3 cr.

This course applies fundamental theory to a number of important activities in business. Activities studied are: partnerships, consolidations and foreign exchanges. Prerequisite: Accounting 311. Offered every semester.

315. Cost Accounting. 3 cr.

Basic cost accounting procedures are discussed from the following view points: cost principles; cost determination; cost control; cost analysis. Topics treated include cost terminology, planning and control techniques, and development and application of overhead rates. Cost behavior patterns are studied in conjunction with development and application of overhead rates. Standard costing, job order costing, process costing, joint products and by-product

costing are treated in detail. Methods of judging managerial efficiency, inventory control and management control systems are also stressed. Prerequisites: Accounting 211, 212. Offered every semester.

411. Auditing. 3 cr.

Standards and procedures employed by auditors in the examination of financial statements for the purpose of rendering an opinion are studied and evaluated. Emphasis is placed on theory and philosophy of auditing; however, case problems are used to demonstrate the application of the principles studied. Prerequisite: Accounting 312. Offered every semester.

412. Introductory Income Tax Accounting. 3 cr.

This course is a study of basic tax regulations and procedure affecting individuals and to a lesser extent partnerships and corporations. Principal topics: returns, rates, exemptions, income, deductions, sales and exchange of assets, and credits. Emphasis is placed on problems to demonstrate the application of the principles studied and use is made of official forms for demonstration purposes. Prerequisites: either Accounting 311 or 313. Offered every semester.

413. Accounting Information Systems. 3 cr.

A course designed to introduce students to management information processing systems and the transformation of information systems to meet specific types of informational requirements. Topics include data base concepts, file storage considerations, development methodology, design, implementation and management considerations of business data systems. The course presumes a familiarity with basic computer programming and Accounting 211, 212. Offered every semester.

414. Corporate and Partnership Taxation. 3 cr.

This course will acquaint the student with the principles of tax law as they apply to corporations and their shareholders and to partnerships and their partners. Rather than emphasizing tax return preparation, the course's concentration is upon preparing students to make reasoned and sound judgments regarding the tax consequences of business transactions. Prerequisite: Accounting 412. Offered every spring.

419. Seminar in Accounting. 3 cr.

This course is designed to develop a student's ability in technical expression, deepen his understanding of accounting theory, and acquaint him with contemporary accounting problems and literature. Students are made acquainted with the philosophy and methodology of research, and required to prepare a research paper. Prerequisite: Accounting 314. Offered as needed.

COURSE PREREQUISITES — see p. 95.

FINANCE CURRICULUM

Students who look forward to careers in finance may select a program of courses in any one of these areas: securities and investments, insurance, corporate finance, and financial analysis.

The professional designation of Chartered Financial Analyst (CFA) is used by those in the securities industry. Suggested courses for students interested in working toward this designation are: Finance 336, 337, 338, 339, and 433.

In the insurance area, the designation for professional personnel in life insurance is CLU (Chartered Life Underwriter). In property and liability insurance it is CPCU. For students interested in careers in insurance, Finance 334, 434, and 435 are recommended.

Finance 334, 335, 432, 434, and 437 are suggested for students whose career interests lean toward corporate finance and financial analysis.

Accounting 311 and 312 or 313 and 315 are recommended for all finance students. Six credits of the following Accounting classes are recommended for all Finance students: Accounting 311, 312, 313 or 315.

331. Business Finance. 3 cr.
This course combines the study of internal and external sources of funds with the tools of financial management and their use to maximize the wealth of the business entity. Primary attention is given to private business entities. While many of the tools and instruments used in the demonstrations are those of large business concerns, entities of all sizes are covered. Special attention is given to the decision-making process as applied to the finance function of business. Secondary emphasis is given to the securities markets, financial projections, organizational form, mergers and consolidation, and reorganization. Offered every semester.

332. Money and Financial Institutions. 3 cr.
To develop knowledge about the role of financial institutions in our society as they perform their function of the creation of the medium of exchange and of taking funds from sources of excess to areas of financing need. Further, to develop an understanding of the construction of the portfolios of the institutions in order to understand why each employs their available funds as they do; knowledge about interest rate movements and their effects on business and the development of financial instruments used within the business society. Modern developments in financial institution regulation and practices are discussed. Through computer analysis, students have the opportunity to apply modern quantitative techniques and principles of financial analysis to problems of asset management. Offered every year.

333. Financial Management. 3 cr.
The course is designed to provide a theoretical or conceptual framework that a financial manager can

use to reach decisions. Material is presented with the purpose of involving the student in the fundamental decisions and compromises of the financial manager as choices between risk and return are made. Readings, cases, computer analysis of financial problems and a research project are used. Prerequisite: Finance 331. Offered every year.

334. Risk Management. 3 cr.
A study of the broad spectrum of risk exposures in business enterprise, with special attention to the need for identifying these in terms of nature and magnitude. Emphasis is on techniques available to aid the decision-maker in making decisions under constraints of uncertainty. Methods of alleviation, avoidance, and insurance are studied. Attention is given not only to the traditional forms of insurable hazards, but also to implicit risks such as those of loss in market value of assets, capital budgeting decisions, new product financing techniques, mergers, and other areas where risk is present in the decision. Prerequisite: Finance 331. Offered every third semester.

335. Business Financial Problems. 3 cr.
The aim of this course is to provide a vehicle in which the student can take material from previous courses and through its utilization solve problems of a financial nature. It also provides the student with an opportunity to learn to write and deliver professional opinions on how to solve business problems. While the course is taught primarily through the case technique, other methods are also used. The student is expected to be able to identify problems, reach conclusions, recommend solutions, and identify techniques on how they might be implemented. Prerequisite: Finance 331 and 333. Offered every third semester.

336. Security Analysis. 3 cr.
An intensive study of the analytic techniques applicable to the selection of the various securities of private as well as public entities. Consideration is given to the markets in which these securities are traded and the types of information necessary to the decision-making process of the investor as the attempt is made to measure the value of a particular security. Several models are examined in seeking appropriateness in establishing the relative worth of a security. Prerequisite: Finance 331. Offered every year.

337. Investment Analysis. 3 cr.
This course develops an understanding of the various types of investments available for a portfolio. Discussion of the risks to which a portfolio may be subject and the importance of these risks to various types of portfolio builders is undertaken. Quantitative and descriptive approaches used in portfolio development are considered. Techniques for measuring the effectiveness of the portfolio are illustrated. Prerequisites: Finance 331 and 336. Offered every year.

338. Futures and Options.**3 cr.**

The course is designed to develop an understanding of futures and options and other derivative financial instruments. While these contracts may be used for speculative purposes, the main emphasis is on the reduction of asset and liability risk for business and financial institutions through hedging operations in debt and equity instruments, commodities and currencies. Methods of analysis such as Black Scholes model and arbitrage pricing theory are an essential part of the course. Students will have an opportunity to study actual market behavior through project analysis. Prerequisites: Finance 331, 336. Offered every year.

432. Credit Management.**3 cr.**

This course gives the student an understanding of the function of credit management. Cases, problems, and field experience may be assigned. The student will have the opportunity to integrate knowledge gained from text material and other financial sources with that of other disciplines to arrive at a logical, sound credit decision. Prerequisite: Finance 331. Offered every third semester.

433. Financial Markets.**3 cr.**

An extensive and intensive study of the market in which the financing of needs takes place. Study is made of the markets for borrowing and lending of capital, both short-term and long-term. Financial institutional structures are given emphasis as they act and interact when serving as sources or intermediaries and users of funds. A research project provides the opportunity to concentrate upon an individual topic. Prerequisite: Finance 331. Offered every third semester.

434. Life Insurance.**3 cr.**

A study is made of the risks of death and longevity and their effect upon personal and business situations. Analyses are made of various forms of life-insurance and annuity contracts, with emphasis upon their functions as instruments of estate creation and administration. Uses of insurance in connection with bank loans, partners and key persons are explored. Attention is given to accident and health coverages, group plans, pensions, and regulation of the industry. Prerequisite: Finance 331. Offered infrequently.

435. Property and Liability Insurance.**3 cr.**

A study of business and personal applications of casualty, fire, and liability coverages in the form of both insurance and bonding, including the fields of workmen's compensation; landlords' and tenants' liabilities; burglary; robbery, and theft; automobile; credit and title insurance; fire and related lines; fidelity and surety bonding; and relevant aspects of inland and ocean marine. Prerequisite: Finance 331. Offered every third semester.

437. International Financial Management.**3 cr.**

This course provides a conceptual framework within

which the key financial decisions of the multinational firm can be analyzed. Emphasis is placed on decision elements which are unique to multinational firms. All the traditional areas of corporate finance are explored, including working capital management, capital budgeting, cost of capital and financial structure, and evaluation and control of operations. In addition, exchange risks and political risks are examined extensively. Prerequisite: Finance 331. Recommended prerequisite: Economics 442. Offered as needed.

439. Seminar in Finance.**3 cr.**

Concentration upon selected contemporary topics presented by distinguished visiting professors or resident faculty. Open only to senior students. Prerequisite: Finance 331. Offered as needed.

MANAGEMENT INFORMATION SYSTEMS CURRICULUM

The Quantitative Science Division offers an area of concentration in Management Information Systems to prepare students for career opportunities in business application programming, systems analysis and design, and information processing management. The course work is designed to prepare students to apply computers, software, and systems techniques to the solution of information systems problems within organizations. For the area of concentration, completion of M.I.S. 382, 383, 385, 481, 482, and 483 is required. In addition, three elective courses must be taken from the following: 384, 386, 484, and 485.

COURSE PREREQUISITES—see p. 95.**382. Information Processing with COBOL.****3 cr.**

Presents structured programming techniques and COBOL applications. The scope of the course ranges from an introduction to basic COBOL concepts, data comparison, multiple level control break reports, sorting, and table handling methods to the introduction of file creation and file processing techniques. Prerequisite: Q.S. 182. Offered as needed.

383. File Processing with COBOL.**3 cr.**

Presents file maintenance techniques as they relate to sequential, indexed sequential and relative file organization. Methods for creating, accessing, and updating files are discussed. Theoretical foundations of structured programming are stressed throughout. Additional topics include an in-depth coverage of table processing, the COBOL SORT feature, ISAM, VSAM, subprograms, utility programs and the COBOL report writer. Prerequisite: M.I.S. 382. Offered as needed.

384. Expert Systems in Business.**3 cr.**

The potential role of expert systems to support management decision-making is analyzed. Expert systems are defined, their development is discussed,

and areas of business applications are surveyed. The artificial intelligence software environment is also explored and evaluated. The student will apply the concepts of knowledge engineering to expert systems development through a commercial expert system software tool. Problems in installing and maintaining an expert system are also discussed. Prerequisite: Q.S. 182. Offered in the spring semester.

385. Computer Systems. 3 cr.
Provides detailed coverage of mainframe hardware and system software. Topics such as number theory, internal coding schemes, central processing units, memory, and operating system concepts form the basis for a sound background in computer technology. Detailed examination of tape, disk, printer, data entry, and data communications technology provide a base for advanced coursework. Prerequisite: Q.S. 182. Offered as needed.

386. Computer Simulation. 3 cr.
Provides an orientation to the design and implementation of simulation models as a means of studying the behavior of a system. The student is required to validate models and their results for the purpose of management decision making. Popular simulation languages are used to construct general purpose simulation models as well as financial system models. Other topics such as computer graphics applications using personal computers are also presented. Prerequisite: Q.S. 182. Offered in the fall semester.

481. Systems Analysis and Design. 3 cr.
A detailed study of all phases of the systems life cycle with emphasis on structured analysis and design techniques. Case studies are used to generate detailed data flow diagrams. The student is required to analyze needs and organize and design files with corresponding inputs and outputs. The issues involving conversion, testing, training, documenting, maintaining and managing a system are also addressed. Prerequisite: Q.S. 182. Offered as needed.

482. Data Base Management. 3 cr.
Focuses on implementation, usage, and integration of a database into the systems analysis and design process. After a thorough introduction to data structures, students apply the network, hierarchical and relational data models to a series of business problems using available commercial packages. Emphasis is on using such packages in a high-level or fourth generation language environment. Prerequisite: M.I.S. 383. Offered in the fall semester.

483. MIS in Organizations. 3 cr.
Establishes the role of management information systems and decision support systems in organizations. The impact of the information system on organizational objectives and structure is examined. The importance of accurately defining information

requirements for all levels of management in a manner that fully utilizes the capacity of the information resource is stressed. Decision support software is integrated into the course content. Prerequisite: M.I.S. 481. Offered in the spring semester.

484. Distributed Information Systems. 3 cr.
Develops an understanding of the terminology, devices and security features of centralized decentralized, and distributed data communication systems. The impact of communications technology on information systems is emphasized. Data communication errors, their detection and correction are discussed. Available software, common carriers, and prevailing costs for services are presented. Case studies are used as the student is expected to design an information system in a data communications environment. Prerequisite: M.I.S. 481. Offered in the fall semester.

485. EDP Audit and Control. 3 cr.
Presents EDP auditing standards with a blend of systems concepts and applications. The importance of incorporating controls in system design is stressed throughout. Techniques for testing computer programs, files, and processing systems are presented. Special attention is devoted to the particulars of auditing real-time systems, time-sharing systems, and computer service agencies. Case studies and generalized audit software are used to create a simulated audit environment. Prerequisite: Q.S. 182. Offered in the spring semester.

QUANTITATIVE METHODS CURRICULUM

Students in the undergraduate School of Business and Administration complete a basic sequence in Quantitative Methods. This sequence is concerned with the application of mathematics, statistics, and electronic data processing to the analysis of business and economic problems. The objective of the program is to increase the student's knowledge and understanding of the uses of mathematics, statistics, and computers as aids in decision-making. The basic sequence is comprised of these courses: Quantitative 281, 282, and 381 after completion of M.I.S. 181 and 182. Prior to entry into the sequence, Mathematics 109 and 111 in the College or the equivalent are required.

COURSE PREREQUISITES—see p. 95

181. Introduction to Computers. 3 cr.
An introduction to computer terminology, concepts, applications, and programming. The course presents the computer as a problem-solving tool in the business environment. Fundamental concepts and applications of word processing, spreadsheets, and data base management systems are introduced. Programming and systems concepts and applications are also presented. Students will use both micro and

mainframe computers to complete course assignments. Prerequisite: Mathematics 109, to be taken concurrently. Offered every semester.

182. Microcomputer Software Applications.

3 cr.

Develops competency in applying the microcomputer and microcomputer software to business-related situations. The student is expected to apply pre-packaged software to devise solutions for decision support. Major spreadsheet and data base management software as well as advanced operating system concepts will be emphasized. Prerequisite: Q.S. 181. Offered every semester.

281, 282. Probability and Statistics.

3 cr. each

This sequence includes the basic ideas of descriptive statistics, inductive statistics, and probability. Among the topics covered are: frequency distributions; measures of central tendency; measures of dispersion; sets and set operations; elementary probability theory; probability distributions; sampling distributions; statistical estimation; testing of hypotheses; time series analysis; simple linear regression and correlation. Prerequisites: Q.S. 181 and Mathematics 111. Offered every semester.

381. Introduction to Decision Sciences.

3 cr.

The application of the scientific method of problem solving to business problems. The course includes various models and the methods of applying them to business situations. The models covered include linear programming, simulation, queuing, and inventory optimization. The use of library computer programs will be emphasized. Prerequisites: Quantitative 281, 282. Offered every semester.

REAL ESTATE CURRICULUM

Students who desire a concentration in real estate must complete Real Estate 339, 434 or 436, and Law 357 and, in addition, must select twelve credits in real estate and related elective courses.

COURSE PREREQUISITE—see p. 95.

339. Fundamentals of Real Estate.

3 cr.

A study of the problems involved in financing residential, commercial and industrial real estate from the points of view of both owner and lender. Methods of financing covered include use of individual and business equity; loans, secured by mortgages; land contracts; sale-and-lease-back arrangements; and cooperatives, syndicates, and real estate trusts. Attention is given to procedures for originating servicing and foreclosing loans and mortgage arrangements by principals, agents and mortgage bankers. Prerequisite: Finance 331. Offered every semester.

434. Real Estate Investment Analysis.

3 cr.

In this course the student learns the application of investment principles and analytical techniques to

real property. Emphasis is on the estimation and revenues/expenses and risk/return relationships in investment valuation of realty and the effects of financing, income taxes, and entity selection upon investment profitability. Prerequisite: Real Estate 339. Offered every year.

435. Property Management.

3 cr.

A survey course intended to provide an introduction to effective management, marketing and leasing techniques as they are applied to commercial real estate. Examination of both the physical and fiscal management functions and how they impact upon the financial performance of property. Prerequisites: Real Estate 339 and Management 361. Offered as needed.

436. Real Estate Valuation.

3 cr.

The principles and methods of appraising single-family homes, including analysis of region, neighborhood, site and improvements. The market approach, cost approach and gross-income multiplier approach are presented. Income Property Valuation - Forecasting and computation of gross income, expenses, and net operating income; theory and mechanics of deriving alternative capitalization rates; applications of compound interest theory; residual approaches and mortgage equity analysis. Critique of contemporary theory and practices. Prerequisite: Real Estate 339. Offered every year.

439. Contemporary Topics Seminar.

3 cr.

This course is designed in a seminar format and provides the opportunity for specialized study of the theory and special applications of real estate problems and institutions. Topical issues are treated in detail and students are encouraged to provide extensive examination of relevant and important issues facing property owners, users and society in general. Prerequisite: Real Estate 339. Offered as needed.

328. Urban Land Economics.

3 cr.

See Economics Curriculum.

357. Real Estate Law.

3 cr.

See Law Administration Curriculum.

DIVISION OF BEHAVIORAL SCIENCE

PROGRAM GUIDE

Programs of study offered through the Division of Behavioral Science include, but are not limited to, the following:

- General Business Administration
- Human Resource Management
- International Business
- Law Administration/Pre-Legal Management
- Marketing

**GENERAL BUSINESS
ADMINISTRATION CURRICULUM**

This concentration is intended for those students who desire a broad overall background in business rather than specialization in any one specific field. Course work beyond the required core may be selected from junior or senior level elective courses in the various fields of study in business. Students in this concentration should plan their programs in consultation with their advisors.

401. Business Administration Internship. 3 cr.
This internship provides the student with a professional work experience in an organizational environment. It is an extension of the curriculum and provides meaningful experience related to the student's area of concentration. Internship responsibilities must be approved in advance by a faculty sponsor. The student is supervised within the work setting and also by a faculty member from the School of Business and Administration. Grading is Pass-Fail. Prerequisites: Junior standing and an overall QPA of 2.5 or better; completion of at least 15 credits at Duquesne University. Offered every semester.

**HUMAN RESOURCE MANAGEMENT
CURRICULUM**

The objective of the Human Resource Management curriculum is to provide students with the opportunity to acquire specialized knowledge and applicable skills necessary to function, as professionals in this career field.

For a concentration in human resource management, students will take HRM 364, 365, 461, 467, Law 356 and Communications 306 plus three of the following: HRM 463, 466, 468, Management 366, 464, and 494, Economics 420, 421. Non-business electives recommended for this concentration are: English 203, 383, or 385; History 394; Speech 206, 302, or 304; Sociology 205; and Special Studies 401.

COURSE PREREQUISITES—see p. 95.

356. Legal Aspects of Human Resource Management. 3 cr.
See Law Curriculum.

364. Personnel Management. 3 cr.
This course includes the technical functions and services provided by an organization's Personnel/Human Resources Department. Among the topics covered are: human resource planning and systems, job analysis, job evaluation, recruiting, selection, performance appraisal, compensation, benefits, training and development, career planning, attitude surveys, occupational safety and health, employee rights, labor unions, international personnel relations, and equal employment opportunity. Prerequisite: Management. 361 Offered every year.

365. Industrial Relations. 3 cr.
A course developed to present to the student historical knowledge of the labor movement, current status and importance in industry, and the legal status of labor governing the actions of management in a myriad of ways. Presents the role of labor, management and government in collective bargaining and current industrial relations policies and practices. Prerequisite: Management 361. Offered every year.

445. Multinational Human Resource Management. 3 cr.
This course provides the opportunity for the student to develop fundamental knowledge about the global corporation's problems and policies of human resource management in multiple foreign environments. In addition, students develop the special skills of human resource management as they apply to the particular situations created by the cross-national operations of the global corporation. Finally, students develop knowledge in an area or topic of multinational human resource management and skills in conducting cross-national research in the field of human resource management. Prerequisite: Management 361, senior standing. Offered as needed.

461. Human Relations. 3 cr.
This is an advanced level course designed to aid the student in developing practical skills in managing interpersonal relationships in the workplace. The course is experiential in nature and requires active student participation in various group exercises including role playing, business games, and discussion groups in addition to more traditional instructional methods such as lecture and case analysis. Topics covered include: organizational socialization, employee motivation, group dynamics, interviewing, interpersonal perception and communications, supervision, and the management of change. Prerequisite: Management 361. Offered every year.

463. Collective Bargaining. 3 cr.
Study of the relation of federal and state legislation issues and administrative aspects of collective agreements; specific provisions including adjustment of grievances; conciliation, mediation and arbitration; collective bargaining and public policy. Prerequisite: Management 361. Offered every second year.

466. Compensation Management. 3 cr.
An advanced course involving treatment of major compensation issues. Coverage includes analysis of the contemporary concepts of wage and salary administration, such as cost of living and merit rating; appraisal of various payment approaches, such as incentive programs and profit sharing; structuring a wage program; analysis of the final effects such technically oriented practices have on the functional areas of management. Prerequisite: Management 361. Offered every second year.

467. Human Resource Planning. 3 cr.
This course provides the linkage between human resources and the strategic direction of an organization. Topics covered include the environment and implementation of human resource planning, needs forecasting, performance and career management, as well as the human resource audit. Prerequisite: HRM 364. Offered every year.

468. Training in Business and Industry. 3 cr.
This course explores the training and development function in human resource management. There is coverage of the assessment of training needs, designing and conducting training programs, and evaluations of training effectiveness. Prerequisite: HRM 364 and permission of the instructor. Offered every second year.

INTERNATIONAL BUSINESS CURRICULUM

The objectives of the International Business Curriculum are as follows:

1. to provide students with the opportunity to develop an understanding of the internationalization of business.
2. to provide students with the basic skills in dealing with the international dimension of basic business functions.
3. to increase students' foreign language competence and understanding of other cultures as they relate to business operations.

For a concentration in international business, students will take IB 341, Finance 437, Econ. 442, Mktg. 443, Law 454 and Communications 306 plus three of the following: I.B. 342, 444, 446, 447, HR 445. Students must also take 12 hours of credit in a language. Students can request a waiver of the language requirement if: (1) They successfully pass the level tests as given by the Modern Language Department. Students are expected to be proficient through the 200 level of a language. (2) Students pay for an independent service to test for language proficiency. Results of these tests will determine whether or not a waiver will be granted. (3) They are native language speakers of a language other than English. (4) Students have taken language courses at another University and are able to pass the language proficiency test.

COURSE PREREQUISITES—see p. 95.

341. International Business. 3 cr.
An introductory study of the environment and management of cross-national business activities. Topics include sociocultural, legal and political environment; international monetary and financial systems; international trade; foreign direct and portfolio investments; and the management of international marketing, financial, production and personnel functions. Prerequisite: Management 361. Offered every year.

342. International Business Study Abroad. var. cr.
Study abroad opportunities with a number of universities are available. Students should check with their advisors in the School of Business and Administration regarding both opportunities and the possibility of transfer of credits. Offered every semester.

437. International Financial Management. 3 cr.
See Finance Curriculum.

442. International Economics. 3 cr.
See Economics Curriculum.

443. International Marketing. 3 cr.
See Marketing Curriculum.

444. Business and Society in Europe. 3 cr.
Survey of the major cultural, social and political factors influencing the conduct of business in Europe. The course includes an overview of the major European economies, a description of the institutions and politics of the European Community, and a detailed examination of business and society in Germany and one other European country. Prerequisite: Management 361. Offered as needed

445. Multinational Human Resource Management. 3 cr.
See Human Resource Management Curriculum.

446. Japanese Business and Management. 3 cr.
This course focuses on the history of Japanese business, the essential elements of Japanese management practices, and the strategies used by successful Japanese global corporations including their approaches to marketing, operations management, human resource management, and financial strategy. The Japanese approach to research and development and business-government relations is also covered. The course ties the business and management practices of Japanese corporations to the culture in which these organizations operate. Prerequisite: Management 361. Offered as needed.

447. Regional Development Processes. 3 cr.
This course focuses on theories, models, and techniques that allow an analysis of the rapid changes that occur in interregional balances. Topics for the course include land use/value, facility location and industrial mix, transportation models, models of trade, demographic modes, and forecasting techniques, as well as regional, national, and global resource issues. Prerequisite: Management 361. Offered as needed.

454. The Law of International Commercial Transactions. 3 cr.
See Law Administration/Pre-Legal Curriculum.

LAW ADMINISTRATION/PRE-LEGAL CURRICULUM

The objectives of this curriculum are:

1. to prepare professionals in the administration of legal systems. Future executives in court management, correctional institutions, and law enforcement receive a broad interdisciplinary educational experience with the basic core coursework in the School of Business and Administration.

2. to provide solid preparation for the professional study of law. See three year Bachelor's/J.D., p. 88.

The curriculum of the School of Business and Administration meets the requirements for registration and general purposes of the State Board of Law Examiners in Pennsylvania and of the State Education Department of New York.

For a concentration in Law Administration/Pre-Legal Studies, the students will take Law 353, 354, and 355 as well as electives offered in this concentration.

251. Legal Process. 3 cr.

An introductory course exploring the nature of law, its sources, its relation to society and government; relation of the judicial to the executive legislative functions; law as an instrument of social change and control; understanding of the legal rights and duties of persons. Acquaintance with areas of legal concern to the administrator such as labor, environmental controls, products liability, anti-trust concerns such as pricing and mergers. Offered every semester.

353. Contracts. 3 cr.

Study of the law pertaining to the formation of contracts, the legal requisites of an enforceable agreement, the transfer of contractual rights and duties, the discharge of contracts; the relationship between principal and agent. Offered every semester. Prerequisite: 251.

354. Commercial Transactions. 3 cr.

Study of the provisions of the Uniform Commercial Code with reference to the nature and legality of sales of goods, the formality of sale contract, transfer of title of goods, warranties; nature and kinds of commercial paper, requisites and meaning of negotiability, methods of transfer. Offered every semester. Prerequisite: 251.

355. Law and Business Organizations. 3 cr.

Consideration of the nature, creation and dissolution of the proprietorship, various types of partnerships, other unincorporated organizations, and the corporation. Duties, rights, remedies, and liabilities of owners and managers are studied. Offered every semester. Prerequisite: 251.

356. Legal Aspects of Human Resource Management. 3 cr.

Survey of state and federal laws that impact on human resource management including fair employ-

ment laws, Title VII of the 1964 Civil Rights Act, Equal Pay Act, Fair Labor Standards Act. The course also provides students with an understanding of ERISA, workmen's compensation laws, OSHA, EEOC guidelines, and office of contracts compliance requirements. Offered every year. Prerequisite: 251.

357. Real Estate Law.

The principles of real property law and their application to the transfer of property rights. Topics include real estate applications of contract and agency law, and the legal relationships among buyers and sellers, landlords and tenants and borrowers and lenders. Familiarity with the appropriate documentation (deeds, mortgages, leases, syndications, etc.) and selected elements of real estate brokerage. Offered every year. Prerequisite: 251.

453. Administration of Legal Systems. 3 cr.

Study of the legal system and the procedures by which legal rights and duties are effectuated and enforced; current problems and issues related to the system in the attainment of its objectives; administrative problems in the legal system. Offered as needed. Prerequisite: 251.

454. The Law of International Commercial Transactions. 3 cr.

This course provides the student with an overall perspective of the basic legal problems involved in doing business with and in other countries. Topics covered include an introduction to foreign legal systems; study of various forms of business organization a business person must consider before doing business with persons in another country; study of the basic legal issues surrounding a control for the sale of goods; legal problems involved in letters of credit, insurance, risk of loss; antitrust aspects of the sale of goods; forms of dispute settlement; and the problems of enforcing judgments in and against foreign countries. Offered every second year. Prerequisite: 251.

MANAGEMENT CURRICULUM

In accord with the objectives of the University and of the School, the Management Curriculum aims are:

1. to introduce students to fundamental concepts of management in organizations, private and public, profit and non-profit.

2. to provide students a breadth of knowledge of the major organizational functions.

3. to develop communication skills necessary for effective managerial performance.

For a concentration in management, students will take Management 366, 367, Accounting 313, Marketing 474, MIS 481, and Communications 306 and three of the following: Management 464, 465, 493 and 494, I.B. 341, HRM 364, 365, 461, 463 and 466.

COURSE PREREQUISITES—see p. 95.

361. Principles of Management.**3 cr.**

This course represents an initial introduction to the essential principles of management centered around the concept of management being a basic process which is distinct and applicable to all enterprises. Planning, organizing, actuating, and controlling comprise the fundamental functions of management, making up the management process. These functions constitute the framework around which this course is built. Emphasis is given to planning which is rapidly growing in managerial importance. Decision making, managerial creativity and the art of management are thoroughly developed. Offered every semester.

366. Behavior in Organizations.**3 cr.**

This course is an introductory treatment of organizational behavior. Students learn a number of theories, concepts, and applications regarding people-oriented managerial skills. Topics covered include motivation, personality, perception, group dynamics, performance appraisal, leadership and decision making, cooperation and conflict, organizational politics, organizational structure, managing change, and organizational development. Prerequisite: Management 361. Offered every year.

367. Operations Management.**3 cr.**

This course introduces concepts which may be used to improve effectiveness of goods-producing and service producing organizations, public and private, profit and non-profit. Topics covered typically include an introduction to various types of production systems, inventory control, quality control, scheduling, forecasting. The unifying theme for the course is productivity and quality improvement. Prerequisites: Management 361. Offered every year.

462. Public Administration.**3 cr.**

This course introduces the student to the content of public management and to the work of the public manager at federal, state and local government levels. It also compares and contrasts public and private management and links management theory and practice. Lecture-discussions and participative methods are employed. Prerequisite: Management 361. Offered as needed.

464. Administrative Organization.**3 cr.**

A course presenting organizational concepts as they relate to the operation of an enterprise. Line, staff, and functional relationships are thoroughly developed. Both formal and informal relationships are considered as they are developed and exist within a firm. Authority, responsibility, delegation, centralization and decentralization of control and other related organizational problems are considered. Prerequisite: Management 361. Offered every year.

465. Introduction to Entrepreneurial Small Business Management.**3 cr.**

This course deals with the overall management of

the small business enterprise. Coverage includes entering the small business arena, organizing and financing a business, operation of the small firm, growth planning, and problems associated with being small. Prerequisite: Management 361. Offered as needed.

491. Executive Action Simulation.**3 cr.**

A course incorporating the Game Theory Approach. The teaching techniques of Case Method and Role Playing are combined in a simulated business environment in which the students make the decisions affecting the conduct of a business. Participants are divided into teams with key corporate duties being assigned and several teams compete against each other in an attempt to operate the "firm" on the optimum profitable basis. Prerequisites: Senior standing and Management 361. Open only to students in the School of Business and Administration. Offered every semester.

492. Executive Policy.**3 cr.**

Integrates concepts and skills from all functional areas of business and administration in decision making under conditions of uncertainty. Makes use of case histories and other information to allow students analysis and problem solving with the organization as a whole. Prerequisites: Senior standing and Management 361. Offered as needed.

493. Independent Scholarly Study.**3 cr.**

Student must initiate an original research project in a field of business of his choice. The project is then scrutinized by a Committee of three Faculty members. If the project is approved, the Dean will choose a faculty member as director of the project. The project must be completed within an academic semester. Prerequisite: Student must qualify as a University Scholar. Offered every semester.

494. Field Study.**3 cr.**

Field study is an interactive course in which student teams of two or three provide extensive management counseling to a Pittsburgh area small business owner. Prerequisite: approval of the instructor. Offered every year.

MARKETING CURRICULUM

In accord with the objectives of the University and of the School, the Marketing Curriculum aims are:

1. to provide an understanding of the role of marketing in organizations, private and public, profit and non-profit.

2. to develop skills in dealing with and applying fundamental marketing concepts.

3. to develop communication skills necessary for effective performance in the field of marketing.

For a concentration in marketing, students will take the following courses: Marketing 373, 374, 375, 476, 477, Accounting 313, and Communications 306

and two of the following: Marketing 443, 472, 474, 475 and 478.

COURSE PREREQUISITES—see p. 95.

371. Principles of Marketing. 3 cr.

The emphasis throughout this course is on problem solving and decision-making in marketing. The basis for the course is a systematic analysis of customer behavior, and the development of marketing policies and programs. Marketing strategy and designing a market mix are stressed to give the student an insight into these areas, and the reduction of risks is emphasized through the use of quantitative and qualitative market research techniques. Offered every semester.

373. Sales Administration. 3 cr.

An introduction to the fundamentals of salesmanship and the problems confronted by the sales manager. Topics include: production planning, pricing, packaging, qualitative and quantitative market analysis, and specific sales management functions of selection, training, equipping, compensating, supervising, and controlling salesmen. Prerequisite: Marketing 371. Offered every year.

374. Research Applications in Marketing. 3 cr.

This course examines the means and methods business management uses to get the necessary information for decision making involving what to produce, how much to produce, and how to distribute goods that are produced. The various types of marketing research—consumer research, motivational research, market analysis, sales analysis and sales forecasting, product research, and advertising research—are studied in some detail. Prerequisite: Marketing 371. Offered every year.

375. Physical Distribution Management. 3 cr.

This course deals with the physical distribution of goods. Topics treated are: location analysis, inventory control, the total distribution cost concept, government regulations and current legislation related to physical distribution. There is also coverage of the organization and functioning of traffic departments, shippers' relations with carriers, and related issues. Prerequisite: Marketing 371. Offered every year.

443. International Marketing. 3 cr.

This course is geared to helping students gain a perspective of international marketing including how it differs from domestic marketing. It will also help students develop skills in analyzing economic and non-economic factors for identifying and evaluating foreign market opportunities; become familiar with different approaches for segmenting international markets; develop skills in formulating product, price, distribution, and promotion strategies in the context of business outside the United States; and develop skills in undertaking international strategic marketing planning. Prerequisite: Marketing 371, 374. Offered every year.

472. Transportation. 3 cr.

A comprehensive analysis of the historical evolution, operation and economic development of the railroads, motor carriers and air carriers of the United States. The Interstate Commerce Act, with its amendments and the public regulation, state and federal, of the various carriers will be emphasized. Prerequisites: Marketing 371. Offered every year.

474. Purchasing Management. 3 cr.

Introduction to purchasing and materials management. Topics covered include purchasing efficiency, inventory problems, pricing and time issues, quality, and value analysis. Students will prepare written case analyses as well as a term project involving value analysis. Prerequisites: Marketing 371, Management 361. Offered every year.

475. Consumer Behavior. 3 cr.

This course aims to develop skill in designing, conducting and interpreting results of consumer research as well as an appreciation of management's problem solving processes and strategic planning decisions involving the consumer market. Among the topics considered are: social, psychological and demographic characteristics of the individual consumer; group influences on consumer behavior; situational determinants on choice behavior; marketing action (segmentation, positioning, pricing in relation to behavior of consumers. Prerequisite: Marketing 371, 374. Offered every year.

476. Product Management. 3 cr.

This course examines various methods and tools to measure and evaluate marketing effectiveness with a focus on pricing strategies and the financial dimensions of product management. Product positioning, competitive strategy, new product development, and life cycle sales forecasting will be covered using computer simulations. Prerequisites: Marketing 374, Accounting 313. Offered every year.

477. Strategic Marketing Planning. 3 cr.

This course employs the case method illustrative of typical marketing problems such as merchandising, advertising, selection of channels of distribution, and development of new products. These problems are analyzed as they affect different middlemen in the marketing structure including manufacturers, wholesalers, jobbers, brokers, agents, and similar functionaries. Theories of marketing are subject to the test of practical examples so that the student may develop a more realistic grasp of the principles involved and the value of the practitioner's judgments. Current marketing developments are studied. Prerequisite: Marketing 371. Offered every year.

478. Industrial Marketing. 3 cr.

This course focuses on business-to-business marketing. It will demonstrate the differences between industrial and consumer marketing; how industrial marketers evaluate their marketing environments, including an understanding of customers and competitors. The course applies the elements of the

marketing mix to industrial marketing and provides a framework for developing and evaluating strategies and plans for industrial markets. Prerequisites: Marketing 371, 374. Offered every year.

DIVISION OF ECONOMIC SCIENCE

ECONOMIC SCIENCE CURRICULUM

The Economic Science program is designed to give a broad understanding of the United States and international economy and to develop in students a capacity to think systematically about a wide range of social and economic problems. An ability to think analytically and to write concisely are stressed in courses in Economics.

A concentration in Economics serves as a solid preparation for Law School or for MBA programs. It is not a narrowly vocational major. The general background which the student acquires prepares him or her for career opportunities in strategic planning, government, banking, and similar fields.

COURSE PREREQUISITES—see p. 95.

121. Elements of Economics. 3 cr.
Economics 121 is an introductory course in economics intended to afford an understanding of how our economic system works, of the forces which affect the level, composition, and distribution of the output of the economy, and of the issues behind current economic problems. The course content will define concepts, provide background materials, and develop economic ideas necessary to an understanding of the policy issues constantly before a complex dynamic economy. Not counted toward a degree in the School of Business and Administration. Offered every year.

221. Principles of Economics I. 3 cr.
The first course in economics for the student who plans to major or minor in economics. The course seeks to acquaint the student with concepts and the logical basis to economic reasoning. Emphasis is placed on understanding the behavior of households and firms under competitive and imperfectly competitive market conditions. Offered every semester.

222. Principles of Economics II. 3 cr.
This course is primarily concerned with aggregative economic relationships. The theory of the determination of national income is developed and attention is given to the construction of national income accounts. Attention is given to monetary and fiscal policy and their implications. Prerequisite: Economics 221. Offered every semester.

321. National Income Analysis. 3 cr.
A conceptual analysis of national income theory, its tools, its basic principles and its social and economic significance. The course treats the macroeconomic method of economic analysis. It is concerned with

explaining the development and nature of national income aggregates. The basic principles of national income theory are developed and explained in order to place into focus the operations of the American economy and the many problems relating to it. Offered every year.

322. Price and Production Economics. 3 cr.
An intensive study of the theory of demand, production and distribution. In addition, recent developments in the theory of imperfect competition and oligopoly are carefully examined. Offered every year.

323. Public Finance. 3 cr.
A study of the organization and management of government revenues and expenditures with emphasis on American practices and policies at the various levels of government. Benefit-cost and cost-effectiveness analysis with their implications for program and capital budgeting receive heavy consideration. The economic consequences of various tax structures and alternative social choice mechanisms are studied. Prerequisite: Economics 321 or 322. Offered as needed.

324. Comparative Economic Systems. 3 cr.
A comparative study of capitalism, socialism, communism and other economic systems with emphasis on analysis rather than mere description of the economics of various countries. Offered as needed.

328. Urban Land Economics.
This course is concerned with the economic forces and governmental constraints applied to the physical growth and development of urban areas. The course materials will trace the development of the rules, regulations, enabling acts, codes, ordinances, administrative practices, and related procedures as they apply to the growth, development, and redevelopment of cities, suburbs, and countryside. Offered as needed.

420. Labor Economics. 3 cr.
Analysis of the principles for wage and employment determination in contemporary American economy under non-union conditions as well as under collective bargaining. The institutional development underlying labor supply and demand is studied with direct emphasis on its impact on employment and production, on the general wage-level and on wage differentials, on the distribution of national income and on general social welfare. The course also includes a comparative study of problems in labor economics in American and other democratic countries. Offered as needed.

421. History of Economic Thought. 3 cr.
Shows the development of economic thought from the Age of Mercantilism to 1890. Major emphasis is placed upon the writings of Mun, Petty, Quesnay, Smith, Ricardo, Malthus, Marx, Jevons, and the Austrian School. It offers a study of the fundamental concepts of the writers and the influence of institu-

tional conditions upon their philosophy. Major emphasis is placed upon value and distribution theory as it developed. Offered as needed.

423. Business Cycles and Forecasting. 3 cr.

This course is designed to study the process of economic change. Analyses of Seasonal, Cyclical, and Secular movements will be undertaken. Theoretical and empirical aspects will be covered. Forecasting techniques will also be studied. Offered as needed.

424. Business and Public Policy. 3 cr.

A study of the regulatory techniques used by government to influence and modify business behavior. This course also includes an analysis of market structure, conduct and performance considerations pertaining to the firm and the industry. Emphasis is given the anti-trust laws and special regulatory problems. Offered as needed.

425. Current Economic Issues. 3 cr.

A seminar-like discussion of the state of the nation's economy and its current problems on the basis of critical examination of professional journal articles and economic reports by official and private sources (such as the president's Council of Economic Advisers). The purpose of the course is to begin developing in the graduating senior the ability to coordinate and apply the analytical knowledge he has acquired during his undergraduate study of economics and related fields of social science and business administration. Offered as needed.

426. Monetary Theory and Policy. 3 cr.

This course presents the chief theoretical contributions on money. The policy implications of these theories, past and present, will be emphasized. Concentration will center upon policy proposals and controversy in the monetary field since World War II. The theories and contributions of Hicks, Keynes,

Friedman and Tobin, among others, are reviewed. The role of interest rate is reviewed along with wage-price controversies, international gold flows, and the relationships between fiscal and monetary policies. Offered as needed.

427. Theory of Economic Development. 3 cr.

The course is designed to acquaint students with the area of economic development. The subject matter of this course conveniently divides itself into five major categories: the nature of development and problems of measurement, theories of development; factors and forces affecting economic growth; different approaches to a higher standard of living; and problems of domestic and international stability. Approach to this course encompasses detailed study as well as a strong emphasis on theoretical and critical analysis. Offered as needed.

429. Seminar in Economics. 3 cr.

The purpose of the seminar is to provide a vehicle for the advanced student to investigate separate subject areas in the field of Economic Theory. The intention is to provide a sound basis for further study at the graduate level. Seminar procedure will stress written and oral reports. Prerequisites: Economics 321, 322 and permission of the instructor. Offered as needed.

442. International Economics. 3 cr.

An introduction to international trade theory and international monetary economics. Topics discussed include the classical and neoclassical theory of comparative advantage, balance of trade, balance of payments, custom's union theory, commercial policy, theory of foreign exchange markets, history of the international monetary system, fixed versus flexible exchange rates. Offered every second year.

School of Education

Administration:

Dean:

Derek Whoredly, Ph.D.

Associate Deans:

Kenneth L. Burrett, Ed.D.

Sr. Mary Frances Grasinger, Ph.D.

HISTORY

Prior to 1929, teacher preparation courses were offered through a department of the College of Liberal Arts and Sciences; in that year the newly-organized School of Education granted its first degrees in programs of secondary education. The following programs have since been approved for certification by the Department of Education of the Commonwealth of Pennsylvania: music education in 1930; graduate education, 1936; elementary education, 1937; guidance, 1952; school administration, 1952; special education, 1964; reading specialist and reading supervisor, 1969; school psychology, 1969; early childhood education, 1975; school supervision, 1976.

SELECTION AND ADMISSION

Candidates who express a desire to become teachers are admitted to the School of Education through the University Office of Admissions (apply to Director of Admissions, Duquesne University, Pittsburgh, Pa. 15282). The curriculum for the first two years is devoted to the broad learnings in general and basic professional education and beginning course work in a major discipline or area of concentration.

The School of Education includes and maintains in its enrollment only those students who give definite indications of teacher potential. Students are, therefore, expected to demonstrate developing personal and professional characteristics, attitudes, and competencies which will recommend them as worthy candidates for the teaching profession. Evaluation and approval by the faculty is based on the student's development of:

1. A well-balanced personality as evidenced through personal appearance, health and vitality, emotional maturity, verbal fluency, self-confidence, cooperation, judgement and tact, adaptability and resourcefulness, cultural appreciation, and social relationships.
2. Professional attitudes and competencies as evidenced through interest in teaching, preparation in subject matter and in teaching methods and techniques, participation in laboratory experiences, including observation and student teaching, and the demonstration of necessary abilities and skills.

A 2.5 average is required for matriculation as a candidate for certification.

PROGRAMS

The School of Education has program approval from the Pennsylvania Department of Education for the preparation of Elementary, Secondary, and Special (teaching the mentally and/or physically handicapped) Education teachers. Also, in consortium with Carlow College, students can become certified in Early Childhood Education.

The programs, in accord with the philosophy and objectives of the School of Education, offer students opportunity to qualify for:

1. The Instructional I (Provisional) Certificate to teach classes in the schools of Pennsylvania for six contract years.

2. Admission to graduate programs in education.

The last 30 credits for the degree must be earned at Duquesne University. The minimum number of credits for graduation is 120.

DEGREE

The School of Education offers programs leading to the Bachelor of Science in Education degree. A 2.0 grade point average is required for the degree. All programs are approved by the Pennsylvania Department of Education for the Instructional I (Provisional) Certificate.

CURRICULUM

General Education. The School of Education requires completion of general education which includes courses in the humanities, social sciences, natural and behavioral sciences, and, for Catholic students, theology. The University Core Curriculum requirements are fulfilled within the General Education Program.

Professional Education. The basic professional education program introduces the student to the teaching profession through thorough study of the principles and practices of education and the learning process. Specialized courses provide preparation in teaching techniques and methods required for specific fields of concentration—elementary, secondary, special (mentally and/or physically handicapped), or early childhood education.

Professional Laboratory Experiences. The School has developed broad and diversified professional laboratory experiences designed to provide opportunities for observing and working with children and youth; these include:

1. Planned observations in public and private schools, agencies, institutions and educational settings.
2. Teacher aide and tutorial experiences.
3. Student teaching in an approved setting for an entire semester.

All of these experiences are completed under professional supervision from the University and from the public or private school or off-campus agency.

GENERAL EDUCATION

The following courses in the arts and sciences are an integral part of each program:

	<i>Credits</i>
Required Courses	
English Area	12
Core Writing	6
English Elective	3
Communication Area (Speech, Journalism, English)	3
Math, Science, Foreign Language	12
Math, Science, (University Core or equivalent)	6
Math/Science/Foreign Language	6
Social Science/Humanities	12
University Core Requirements	6
(Anthropology, Economics, Geography, History, Political Science, Sociology, and Psychology)	6
Philosophy/Theology	6
University Core Requirements	6
Catholics—minimum of 3 core Theology credits.	

COMPETENCY CORE CURRICULUM

The Competency Core Curriculum begins with introduction to Education I, II in the freshman year, Developmental Foundations I, II in the sophomore year and concludes with Curriculum and Instruction I, II in the junior year. The Competency Core Curriculum focuses on the philosophical, psychological and pedagogical foundations needed by entry-level teachers; extensive involvement in field experiences beginning with the freshman year; and an on-going process of individual advisement and counseling regarding teaching and career decisions. The Competency Core Curriculum is predicated on four domains; 1) Becoming a person, 2) Becoming a student of education, 3) Becoming an educational theorist, and 4) Becoming a practitioner. The Competency Core Curriculum, as the title implies, is a competency based program that is developmentally designed to prepare education students to be entry-level teachers in early childhood, elementary, secondary and special education.

Courses (Required in all Programs)*

101, 102 Introduction to Education I, II	2, 2
215, 216 Developmental Foundations of Education I	3, 1
217, 218 Developmental Foundations of Education II	3, 1
*311 Instructional Psychology/ Instructional Computing	3
*313 Human Development/Exceptional Child	3

*315, 316 Curriculum and Instruction I	3, 2
*317, 318 Curriculum and Instruction II	3, 1

*In Early Childhood Education, 311, 313, 315, 316 and 317, 318 are not required.

EARLY CHILDHOOD EDUCATION

This is a cooperative program, approved by the Pennsylvania Department of Education, with Carlow College. Some of the professional courses are offered only on the Carlow campus.

These 48 credits (semester hours), in addition to 42 specified under General Education, 12 credits in the Competency Core Curriculum, and 18 credits in electives, are required for the degree:

	<i>Credits</i>
Required Courses—Carlow College	30
*201 Orientation to Early Childhood Education	3
*203 Child Development	3
307 Curriculum & Methods for Early Childhood Education with Practicum	4
308 Curriculum & Methods for Day Care with Practicum	3
309 Special Needs Practicum	1
**320 ED Reading & Language Arts	3
321 ED Reading & Language Arts Practicum	1
404 EC Nursery School Student Teaching & Seminar	6
406 EC Primary Student Teaching & Seminar	6

*Prerequisites for 307, 308 and 310.

**Prerequisite for 321.

Required Courses—Duquesne University	18
231 Teaching Physical Education for Classroom Teachers	1
232 Teaching Art for Classroom Teachers	2
233 Teaching Health for Classroom Teachers	1
234 Teaching Music for Classroom Teachers	2
331 Teaching Elementary Social Studies	3
332 Teaching Elementary Mathematics	3
333 Teaching Elementary Science	3
209 Foundations Special Ed	3

ELEMENTARY EDUCATION

The following 39 credits (semester hours) in Professional Preparation and 12 in electives combined with the 42 credits specified in General Education and 27 in the Competency Core Curriculum comprise this curriculum:

Credits

Professional Preparation (All Courses Required)	39
231 Teaching Physical Education for Classroom Teachers	1
232 Teaching Art for Classroom Teachers . . .	2
233 Teaching Health for Classroom Teachers . 1	
234 Teaching Music for Classroom Teachers . . 2	
325 Teaching Reading in the Primary School . 3	
326 Teaching Reading in Intermediate and Middle Schools	3
330 Teaching Elementary Language Arts and Reading	3
331 Teaching Elementary Social Studies	3
332 Teaching Elementary Mathematics	3
333 Teaching Elementary Science	3
484 Children's Literature	3
*491 Student Teaching	12

*No student may register for additional course work during the student teaching semester without permission.

Electives 12**MUSIC EDUCATION**

General and professional course work and professional education courses required for this program are outlined in the School of Music section.

SECONDARY EDUCATION

In addition to the 42 credits (semester hours) in General Education and 27 in the Competency Core Curriculum, a student must complete the following 50 credits: 17-19 in Professional Preparation, 2-4 in electives and a minimum of 30 in an Arts or Sciences Area to satisfy requirements for the degree and certification:

Professional Preparation (All Courses Required)	Credits 18 or 19
497 Reading in the Secondary School	3
Specific Methods Course	3-4
215 Teaching Grammar and Composition AND	
216 Teaching Literature OR	
316 Teaching Secondary Mathematics and Science OR	
318 Teaching Secondary Foreign Languages OR	
319 Teaching Secondary Social Studies	
*491 Student Teaching	12

*No student may register for additional course work during the student teaching semester without permission.

Electives 2-3
Arts or Sciences Area (Minimum for Certification) 30

Certification Area	Course Concentration	Supporting Courses
Biology	Biology	Mathematics chemistry and physics Mathematics physics, biology
Chemistry	Chemistry	
Communication		
English Emphasis	English	Journalism, Speech
Journalism		
Emphasis	Journalism	Speech, English
Speech Emphasis	Speech	English, journalism
English		
General Science	Minimum of eight credits in biology, chemistry, and physics, and additional courses to total a minimum of 18 semester hours in one field of science	
Latin	Latin	Greek, history
Mathematics	Mathematics	Computer science physics Philosophy,
Modern Languages	French, German, or Spanish	linguistics Chemistry,
Physics	Physics	mathematics, computer science, biology Philosophy
Social Studies	Economics,	
geography, history, political science, psychology, sociology, anthropology		

SPECIAL EDUCATION (MENTALLY AND/OR PHYSICALLY HANDICAPPED)

This program is designed to prepare students for teaching pupils with mental and/or physical disabilities, including brain injured, emotionally and socially disturbed, learning disabled, mentally retarded and physically disabled.

These 48 credits (semester hours) in Professional Preparation and three in Electives in addition to the 42 credits in General Education and the 27 in the Competency Core Curriculum are required for the degree:

Professional Preparation (All Courses Required)	Credits 48
209 Foundations of Special Education	
231 Teaching Physical Education for Classroom Teachers	
232 Teaching Art for Classroom Teachers . . .	
233 Teaching Health for Classroom Teachers .	
234 Teaching Music for Classroom Teachers . .	
276 Methods in Special Education	
325 Teaching Reading in the Primary School .	
330 Teaching Elementary Language Arts and Reading	
332 Teaching Elementary Mathematics	
333 Teaching Elementary Science	

386 Teaching the Mildly Handicapped	3
387 Teaching the Severely Handicapped	3
388 Vocational Education for the Handicapped	3
477 Management of Behavior and Instruction in Special Education	3
*491 Student Teaching—Special Education . . .	12

*No student may register for additional course work during the student teaching semester without permission.

TEACHER CERTIFICATION

Through satisfaction of degree and certification program requirements, and after successful completion of Pennsylvania Teacher Certification Testing Program, student will be eligible for the appropriate Pennsylvania Instructional I (Provisional) Certificate. This certificate is valid for six years of teaching. During that time, to convert the certificate to the Instructional II (Permanent) form, the holder must complete 24 semester hours of post baccalaureate study and three years of successful teaching in public or private schools in Pennsylvania. All programs are approved by the Pennsylvania Department of Education. Certification in Pennsylvania enables a student to meet certification requirements in various other states. Application for the certificate must be made during the semester in which the student expects to be graduated.

DUAL CERTIFICATION

Through advisement, a student may complete requirements in two certification areas, such as elementary/early childhood, elementary/secondary, elementary/special education. Such programs require some additional course work beyond the 120 semester hours for a degree. After completing all other requirements, students may register, with appropriate advisement, for a nine- and a six-credit student-teaching course. Student teaching in both areas is offered during the student's final semester.

CLASS ATTENDANCE

The School of Education faculty has determined that the following policy will be in effect for the School of Education and will be adhered to by all professors who teach undergraduate courses: It is presumed that each student in a professional course will normally attend every session. The maximum number of cuts permitted is equated in hours, not in periods the class meets; in other words, a student may miss three hours of class time in a three-credit course.

STUDENT ORGANIZATIONS

The School of Education includes in its program opportunities for participation in student organiza-

tions related to professional education preparation. Students are encouraged to take an active part in these professional organizations, for such interest is interpreted as reflecting social and educational development. The organizations are:

Duquesne University Chapter of the *Council for Exceptional Children*, state and national student organizations in Special Education.

Kappa Delta Epsilon, national education sorority.

HONOR AWARDS

These awards, presented at the annual Honors Days Convocation, are open to undergraduates in the School of Education:

Faculty Award for General Excellence in Early Childhood Education.

Faculty Award for General Excellence in Elementary Education.

Faculty Award for General Excellence in Secondary Education.

Faculty Award for General Excellence in Special Education.

Kappa Delta Epsilon National Professional Education Sorority Award for outstanding member of Alpha Kappa Chapter.

Kappa Delta Epsilon National Professional Education Sorority President's Award.

Lawrence A. Roche Memorial Award to a junior student for general excellence in the School of Education.

Philip C. Niehaus Memorial Award for outstanding achievement in the School of Education.

Council for Exceptional Children Award for outstanding work in the organization.

COURSE DESCRIPTIONS

Unless indicated courses are year long or offered fall and spring.

EDUCATIONAL FOUNDATIONS AND PSYCHOLOGY

101, 102. Introduction to

Education I, II.

2 cr. each

101 provides instruction and hands-on experience with audio-visual, computer, and V.C.R. materials. Includes field experience at selected and supervised schools. Introduces students to professional standards and competencies. 102 emphasizes foundational knowledge, behavioral methodology, and current thrusts in the profession. Includes field experience at selected and supervised schools. Introduces students to professional self-assessment.

202. Educational Psychology.

3 cr.

Examines affective and cognitive development, plan-

ning and teaching techniques, measurement and evaluation, and related theories in an experiential learning environment. (Fall)

203, 204, 205, 206, 207.

Field Experience.

1 cr. each

Classroom and other school experience as an aide or observer; one credit each semester for a maximum of five semesters.

215, 216. Developmental Foundations of Education I.

4 cr.

See description for 217, 218.

217, 218. Developmental Foundations of Education II.

4 cr.

Developmental Foundations I and II examine the effects that values, classroom interactions, approaches to various teaching and learning styles, recognition of individual differences, and various curriculum designs including I.E.P.'s and multicultural approaches, have on the physical, cognitive, affective and social development of all students and the teacher. Concurrent field placements include case studies, directed observations, data collection and teacher aide experience.

311. Instructional Psychology/ Instructional Computing.

3 cr.

Instructional Psychology is largely concerned with human learning as it occurs in "educational" contexts. The primary focus will be on student acquisition of knowledge and skill and how the competence is developed through the design of the conditions of learning. In Instructional Computing, students will review the components and functions of computer hardware and software, learn to evaluate software for integration into the standard curriculum, and develop skills in using computers for writing, planning, and evaluating.

313. Human Development/ Exceptional Child.

3 cr.

Cognitive, physical, psychological, and social development over the life span. Human Development focuses on age-level characteristics, developmental theories and principles, and learning processes and implications pertaining to the child and adolescent in the school. Students will demonstrate an ability to successfully accommodate exceptional children in the regular classroom by planning, developing and implementing effective educational programs.

315, 316. Curriculum and Instruction I.

5 cr.

See description for 317, 318.

317, 318. Curriculum and Instruction II.

4 cr.

Curriculum and Instruction I and II focus on the presentation, analysis and demonstration of those generic competencies that directly apply to the design and implementation of effective teaching-learning practices in the classroom. The components specifically address such topics and techniques as educational taxonomies, instructional objectives, planning the lesson, classroom management, learn-

ing centers, materials utilization, evaluation of learning and grading. The field placement includes intensive teaching experience on site.

340. Self-Development for the Classroom.

3 cr.

Focuses on a philosophical-psychological approach to self-development, using classroom activities to promote personal awareness in the teacher and student. (Summer only)

351. Adolescent Development.

3 cr.

Examines the developmental processes, psychological, physical, and social, which affect student and student-teacher behavior and relationships in the classroom. (Alternate Spring and Summer)

410. Interpersonal Management Techniques for Educational and Organizational Leaders.

3 cr.

Focuses on four major concerns for maximizing learning and minimizing conflict; they are the teacher's personal awareness of feelings and emotions; interpersonal, societal, and educational values; understanding of group dynamics; and knowledge of managing classroom situations. (Alternate Spring and Summer)

480, 481. Independent Study.

1-3 cr.

With permission of an instructor and approval of the Dean, seniors may pursue in-depth study of a subject area or engage in individual projects related to their professional goals.

485. Problems in Teaching Reading.

3 cr.

Reading difficulties in elementary and secondary school levels; discussion of classroom and clinical procedures in solving reading problems; diagnostic and corrective techniques, and materials for the classroom teacher; reading improvement programs; special unit on reading problems of the mentally retarded. (Spring and Summer)

EARLY CHILDHOOD EDUCATION

201. Orientation to Early Childhood Education.

3 cr.

Examination of the history of child development and practices of early education, culminating in an overview of theoretical issues influencing practice in the field today. Development of the student's observational skills, completion of on-site observations in early educational settings, defining the role of the Early Childhood Educator, and developing a personal philosophy. (Fall semester only)

203. Child Development.

3 cr.

In-depth examination of the development of the child from birth-eight years in physical, intellectual, social and emotional areas of growth. Methods of recording and assessing growth of young children will be examined and utilized and a term project based on readings and observations will be required. (Spring semester only)

307. Curriculum and Methods for Early Childhood Education with Practicum. 4 cr.

Study of curriculum methodology and implementation in nursery, kindergarten and primary settings. Students will design environments and enact activities for language development and reading, art, music, play, social studies, science and math for children 3-8 years. A weekly practicum in an early education classroom is an integral part of this course. Prerequisite: EC 201 and 203. (Fall semester only)

308. Curriculum and Methods for Day Care With Practicum. 3 cr.

Examination of social needs, program designs and curriculum implementation of day care services for children birth-8 years. Topics covered include research on working families, program design, environmental design and assessment, comprehensive curriculum planning, staffing strategies, parent communication, and research on impact of day care on young children and their families. Weekly practicum required in a child care classroom. Prerequisite: EC 201 and 203. (Spring semester only)

309. Special Needs Practicum. 1 cr.

Classroom or other school experience as an aide or observer, with special needs populations.

320. Reading and Language Arts. 3 cr.

The nature of reading, the pertinent research in the field, the selection of materials, methodologies and teaching strategies are emphasized. (Fall semester only)

321. Reading and Language Arts Practicum. 1 cr.

Diagnosis of needs, planning and teaching of age and need appropriate lessons to small groups of children in a supervised situation. Prerequisite ED 320. (Spring semester only)

404. Nursery School Student Teaching and Seminar. 6 cr.

406. Primary Student Teaching and Seminar. 6 cr.

The student teaching experience involves the prospective teacher in a Nursery School setting and in a primary classroom for eight weeks each; the student assumes teaching responsibilities, applies theory/practice and develops a personal teaching style under the direct supervision of the cooperating teacher and college supervisor. Verification of student competency will be determined jointly by both the cooperating teacher and the college supervisor. Student teachers return to campus one afternoon a week for seminar with the college instructor. This seminar provides classroom discussion of various student teaching experiences as well as analysis of the goals, program designs and curricula of the various early childhood programs in which students teaching is completed. Pertinent topics related to ongoing professional development will be included. No other credits may be taken while the

student is involved in 404 and 406 without special permission of the Director of Early Childhood Education.

ELEMENTARY EDUCATION

231. Teaching Physical Education for Classroom Teachers. 1 cr.

232. Teaching Art for Classroom Teachers. 2 cr.

233. Teaching Health for Classroom Teachers. 1 cr.

234. Teaching Music for Classroom Teachers. 2 cr.

An introduction to the basic principles and concepts of teaching physical education, visual arts, health, and music to children of elementary school age, including exceptional children.

325. Teaching Reading in the Primary School. 3 cr.

Major emphasis is on the pre-school, readiness, and primary grades. Content deals with language, experiential, cognitive, and perceptual development in young children and their relationship to the beginning reading program. In addition, consideration will be given to the basic reading skills which comprise the first three years of a developmental reading program: techniques of individualizing instruction, evaluating and reporting pupil progress.

326. Teaching Reading in Intermediate and Middle Schools. 3 cr.

Focuses on the transitional period in a developmental reading program in which reading becomes a tool to be used in each content area. In addition to continuing reading skills in the developmental reading program, specialized reading and study skills, necessary for students to function in social studies, science, language arts, mathematics, and other content areas, will be presented. Techniques of determining readability of materials, individualizing instruction, evaluating and reporting pupil progress are also studied.

330. Teaching Elementary Language Arts and Reading. 3 cr.

Presents psychological principles and historical perspective in the language arts, the foundation on which a good language arts, program should be built. Four skills—listening, speaking, reading, writing—as acquired by the child, combined with knowledge of the evaluative process, teaching methods, and materials, provide a realistic approach to teaching language arts and reading experience.

331. Teaching Elementary Social Studies. 3 cr.

Emphasizes the design, delivery and evaluation of effective social studies plans and units. Higher level thinking processes, values and moral development, and classroom management are explored in small group simulations.

332. Teaching Elementary Mathematics. 3 cr.
Theories, techniques, practices, and content pertaining to mathematics are presented. Emphasis is on exploratory and systematic instructional styles; games as an instructional strategy.

333. Teaching Elementary Science. 3 cr.
Study of theories, techniques, practices, and content of the science area. Accent is on discovery and inquiry instructional styles; organizing for learning.

484. Children's Literature. 3 cr.
A general survey of books and other printed materials for children; criteria for the evaluation and analysis of the children's books; types of books available, considered in terms of interest, needs, and abilities of children.

490, 491. Student Teaching—Elementary. 9-12 cr.
Student teaching in an approved elementary school under the direct supervision of a cooperating teacher. Prerequisites: Senior status, good academic standing, completion of required professional courses, and recommendation of faculty.

493. Student Teaching—Elementary. 6 cr.
Student teaching in elementary education for students in the secondary or special education programs who wish to complete requirements in two certification areas. Registration is concurrent with Ed. 490-Secondary or Ed. 490-Special Education.

SECONDARY EDUCATION

215. Teaching Grammar and Composition. 3 cr.
Examines various ways to teach grammar, language, and composition; provides opportunity for students to review the basics of grammar and composition and to develop lessons for teaching those grammar areas at the elementary, secondary levels and in special education. (Alternate Springs)

216. Teaching Literature—Prose, Poetry, and Drama. 1 cr.
Focuses on planning and teaching techniques to prepare and present literature utilizing a genre, a chronological or thematic approach; the four sessions involve an approach to literature experience, teaching prose, teaching poetry, and teaching drama. (Alternate Springs)

316. Teaching Secondary Mathematics and Science. 3 cr.
Designed to acquaint the student with methods and materials for teaching specific models; research and field-based activities are expected. (Alternate Falls)

318. Teaching Foreign Languages. 3 cr.
Explores a variety of approaches for teaching foreign languages (K-12); grammar, structure, verbal exercises, and literature germane to the specific language to be taught will be discussed. (Alternate Falls)

319. Teaching Secondary Social Studies. 3 cr.
This is a competency-based experience for social studies/history majors that develops evaluation skills, knowledge of curricula, media and technological experiences, and methods; expands planning and questioning skills. (Alternate Springs)

490, 491. Student Teaching—Secondary. 9-12 cr.
Student teaching in an approved secondary school under the direct supervision of a cooperating teacher. Prerequisites: Senior status, good academic standing, completion of required professional courses, and recommendation of faculty.

493. Student Teaching—Secondary. 6 cr.
Student teaching in secondary education for students in the elementary or special education program who wish to complete requirements in two certification areas. Registration is concurrent with Ed. 490-Elementary or Ed. 490-Special Education.

497. Reading in Secondary Schools. 3 cr.
A survey course in the teaching of reading; appropriate for secondary education majors. Major emphasis is on methods of teaching reading, the materials for evaluating pupil growth in reading and reading in the content subjects. (Fall)

SPECIAL EDUCATION

These courses are designed to prepare students for teaching pupils with mental and/or physical disabilities, including brain injured, emotionally and socially disturbed, learning disabled, mentally retarded, and physically disabled.

209. Foundations of Special Education. 3 cr.
A survey of the educational, physical, psychological, and social characteristics of exceptional persons; an overview of special education methods and programs; introduction of legislative and legal aspects. (Fall)

211, 212, 213, 214. Field Experience. 2 cr. each
Classroom and other experiences in educational, social welfare, and vocational settings as an observer and participant. Enrollment with consent of Director of Student Teaching and School of Education faculty advisor. Students may choose 211 (Elementary) or 212 (Secondary) which involve the mildly handicapped, 213 which is with the severely handicapped, or 214 which is with prevocational/vocational pupils.

231. Teaching Physical Education for Classroom Teachers. 1 cr.

232. Teaching Art for Classroom Teachers. 2 cr.

233. Teaching Health for Classroom Teachers. 1 cr.

234. Teaching Music for Classroom Teachers.**2 cr.**

An introduction to the basic principles and concepts of teaching physical education, visual arts, health, and music to children of elementary school age, including exceptional children.

276. Methods of Special Education.**3 cr.**

An introduction to management techniques utilized in programs for exceptional persons; information covering educational assessment procedures; design and implementation of individual educational programs and methods for individualizing instruction; examination of legislative and legal aspects. Prerequisite: 209 or equivalent. (Spring)

386. Teaching the Mildly Handicapped.**3 cr.**

Evaluation, integration, and implementation of theoretically based methodologies, curricula, instructional techniques, and evaluation procedures for students who have been labeled brain injured, learning disabled, mentally retarded, physically handicapped, socially and emotionally disturbed. Prerequisites: 209, 276. (Fall)

387. Teaching the Severely Handicapped.**3 cr.**

Evaluation and integration of the various theories, methodologies, curricula, instructional techniques, and evaluation procedures for severely handicapped persons labeled brain injured, learning disabled, mentally retarded, physically handicapped, socially and emotionally disturbed. Prerequisites: 209, 276. (Spring)

388. Vocational Education for the Handicapped.**3 cr.**

Overview of pre-vocational, career, and occupational education program models for exceptional persons. Students will be given information and experiences enabling them to design and implement instructional programs appropriate to the vocational needs of mentally and physically handicapped persons. Prerequisites: 209, 276. (Fall)

477. Management of Behavior and Instruction in Special Education.**3 cr.**

Studies and experiences in the management of problem behaviors and instructional programs. Topics include: behavioral and affective interventions, emergency procedures, multidisciplinary group process and parent involvement, community resources, and technological applications in the special needs curriculum. Students will develop and implement Student Teaching Readiness Assessment and Plan. (Fall)

490, 491. Student Teaching—Special Education.**9-12 cr.**

A full semester of supervised classroom experience in a carefully selected school for mentally and/or physically handicapped pupils. Prerequisites: senior status, good academic standing, completion of required professional courses, and recommendation of faculty.

493. Student Teaching—Special Education.**6 cr.**

Student teaching in special education for students in the elementary or secondary education program who wish to complete requirements in two certification areas. Registration is concurrent with Ed. 490-Elementary or Ed. 490-Secondary Education.

SCHOOL OF MUSIC

Administration:

Dean:

Michael Kumer

Assistants to the Dean:

Theresa Bargas

Elisabeth Heath

Administrative Assistant:

Susan Douglas

Dean Emeritus:

Gerald F. Keenan

HISTORY

Founded in 1926, the School of Music recently celebrated its sixtieth anniversary. The earliest course of study led to the Bachelor of Music degree; the Bachelor of Science in Music Education program was added four years later. On April 29, 1967 the present music building was dedicated; on this occasion Van Cliburn was awarded an Honorary Doctorate of Music degree. The School of Music has been fully accredited by the National Association of Schools of Music since 1966.

The School of Music offers a comprehensive musical education in tune with the realities of the times. Overlooking the City of Pittsburgh with its unique blend of old and new, with its thriving cultural life, the campus itself symbolizes the goal: development of a well rounded professional musician who is well equipped to contribute to the contemporary musical world.

To meet that goal, the School of Music aims to develop in each student competent individual performance informed by music scholarship: an intelligent and sensitive musicianship founded upon studies in music theory and history. Music studies at Duquesne are enriched by the core curriculum, a sequence of liberal courses which place music studies within a broader cultural context.

ADMISSION

Students who wish to major in music should apply through the Office of Admissions. Following this an interview and audition should be scheduled through the Administrator of Music Enrollment. Specific audition requirements are mailed to auditionees. The audition consists of solo performance before a committee, a written theory exam, and an individual aural test. Students requesting scholarship assistance should apply through Financial Aid, and complete the music talent award application at the time of the audition. Taped performances can be evaluated, but the audition process is not completed entirely until the testing has been done. Students receive written confirmation of their status from the Office of Admissions.

It would be helpful for prospective music majors to have a background in theory, piano and certain aural skills prior to entrance. If deficiencies exist in any of these areas, prerequisite courses may be required at the discretion of the audition committee.

Visits to classes and personal interviews with the applied music staff are encouraged strongly and may be arranged by calling (412) 434-5064.

DEGREES

Undergraduate music students enroll in one of three degree programs: the Bachelor of Music degree, the Bachelor of Science in Music Education degree, or the Bachelor of Science in Music Therapy degree. Students planning performance careers, whether in concert, symphony orchestra, opera, media arts or studio recording enroll in the Bachelor of Music program. Students interested in teaching in a private studio situation or at the college level, as well as preparing for a career in music ministry, also enroll in this program. Students anticipating a career in school music teaching enroll in the Bachelor of Science in Music Education program; prospective music therapists enroll in the Bachelor of Science in Music Therapy program. Students enrolled in other schools and colleges in the University also study in the School of Music: in recognition of the importance of arts education to the full development of each individual, applied instrumental study as well as music courses designed for general students are available.

Students in the Bachelor of Music program major in piano, organ, voice, orchestral instruments, guitar, or sound recording technology; they elect a concentration in classical music, jazz, sacred music, or music technology. Students in the Bachelor of Science in Music Education program elect a concentration in choral music or instrumental music.

The curriculum is enhanced by the vital cultural life in the City of Pittsburgh, which was a factor in its recent ranking as America's "most livable city." The proximity of the School of Music to the city frequently brings these cultural events to the campus. Workshops, masterclasses, and special performances are often presented by visiting artists who have included: Birgit Nilsson, Wynton Marsalis, John Mack, Rebecca Pennys, and Barry Green.

The Pittsburgh Opera Center at Duquesne, under the general direction of Tito Capobianco, creates an environment that encourages the development of young artists in all facets of opera production. Visiting faculty have included Beverly Sills, Sherrill Milnes, Renata Scott, Maureen Forrester, Carlo Bergonzi, Regine Crespin, and Isabel Penagos.

Applied faculty in the School of Music include members of the Pittsburgh Symphony Orchestra as well as distinguished concert artists. Ensembles in residence include the Children's Festival Chorus, the Junior Mendelssohn Choir, and the Pittsburgh New

Music Ensemble. Other faculty are recognized in the academic and cultural communities for their activities as performers, conductors, composers, church musicians, clinicians, and music scholars. Interaction with these outstanding professional musicians is invaluable in the education of the developing professional musician.

Duquesne students also take advantage of the many performance opportunities afforded them by local music organizations. Students perform in the Pittsburgh Youth Symphony, the Pittsburgh Civic Orchestra, the Westmoreland Symphony, the McKeesport Symphony, and others.

FACILITIES

The School of Music has well over 70 pianos. The Recital Hall is equipped with two Steinway concert grands. Piano majors practice in specially designated rooms that contain grand pianos; other practice rooms are supplied with studio upright pianos. Organ students have access to two Moeller organs and a Fischer practice organ, an electronic organ, a three manual Moeller organ, and a Fuhrer tracker organ. Two pipe organs by Kilgen and Tellers and a Rodgers electronic theatre organ on campus are also available for recitals and for practice. Many orchestral and band instruments are available for instrumental classes.

The Center for Music Technology houses a Music Learning Resource Center, an Electronic Piano Lab, and a Synthesizer and Recording Studio. Located in the Music Learning Resource Center is an Apple II lab used for aural skills training, a large collection of Music Education resource materials, a record library, and several Macintosh/MIDI workbases. The Electronic Piano Lab, equipped with MIDI capable Kawai pianos, is used for individual practice as well as for scheduled piano classes. The Macintosh-based Synthesizer Lab is equipped with a Kurzweil 250 sampler, Yamaha DX7IIDF, Roland MT-32, Korg M-1, Yamaha RX5 Drum Computer, Ensoniq Mirage sampler, Proteus sampler and other MIDI synthesizers and modules. Recording Studio equipment includes a Fostex E-8 Multi Track Recorder with MIDI/SMPTE auto locator, Tascam 4 Track Cassette Decks, Otari Half Track, Ramsa and Allan Heath consoles, and other audio equipment. Courses in this area emphasize the synergy between traditional musicianship and new technological skills.

All students are introduced to state-of-the-art MIDI and synthesis equipment and its use in performance, composition, and commercial applications. Students in composition and in audio techniques courses make extensive use of these resources, which are contained in the Music Technology Lab.

Students in piano class receive individual assistance and evaluation through connections to the instructor provided by a Kawai electronic piano

system. Electronic pianos are available to students for practice outside of piano class.

STUDENT ORGANIZATIONS

Chapters of the national music organizations Phi Mu Alpha Sinfonia and Mu Phi Epsilon contribute substantially to the students' professional and social development. The Music Educators National Conference has an active student chapter which sponsors professional programs and attends and participates in the state, regional, and national activities of the association. There are active chapters of the American Guild of Organists, the National Association for Music Therapy, and the American Choral Directors Association. A chapter of Pi Kappa Lambda, the national music honor society, was installed in March, 1988.

HONOR AWARDS

The Seibert Medal is presented to a senior for excellence in violin or piano upon recommendation of department committee.

Andre Marchal Award is presented to the graduating organ student with the highest academic standing in performance.

Jean Langlais Award is presented to the graduating organ student with the highest academic standing in Sacred Music.

J. Cometti Tucci Piano Performance Award is presented annually to outstanding piano student.

Mu Phi Epsilon Sterling Achievement Award is presented by Mu Phi Epsilon to an outstanding senior music student.

Robert Egan Award for Academic Excellence; Richard Gray Award for Outstanding Service are presented by the Music Therapy department to graduating senior students.

CERTIFICATION

MUSIC EDUCATION/MUSIC THERAPY

Students completing the course work in music education receive the B.S. in M.Ed. and may be recommended for certification to the PA Department of Education. Upon successful completion of the National Teacher Exam (NTE), graduates may receive the Instructional Level I — Music, K-12 certificate.

Selection of students for this program depends upon completion of admissions and audition procedures and an interview with a department member. Candidates are expected to demonstrate leadership qualities, excellent communication skills, critical thinking and analysis ability and a genuine interest in a service oriented profession.

Post-graduate certification course work in music education is available to those with B.M. degrees or B.S. in Education degrees. Audition and/or course requirements are available upon request.

The Bachelor of Science in Music Therapy degree leads to certification as a registered music therapist. In order to receive the Music Therapy degree or its equivalency for certification, all Music Therapy students are required to take a prescribed number and sequence of courses in Music Therapy, and give

evidence of competency in the field, as determined by the Music Therapy Department in accordance with the National Association for Music Therapy. Upon completion of the academic requirements, a six-month internship is required, which culminates in registration and eligibility for board examination.

MAJOR IN BASS GUITAR/GUITAR (Acoustic and/or Electric)

Courses				Fall	Spring
Freshman Year					
Mus.	105	105	Seminar	0	0
Mus.	121	121	Guitar	3	3
Mus.	119	119	Piano	1	1
Mus.	131	132	Theory	2	2
Mus.	133	134	Solfege	2	2
Mus.			Ensemble	1	1
Mus.	121	122	Eurhythmics	2	2
Gen.			Core	3	3
Mus.			Music Electives	3	3
				17	17
Sophomore Year					
Mus.	105	105	Seminar	0	0
Mus.	121	121	Guitar	3	3
Mus.	119	119	Piano	1	1
Mus.	231		Theory	2	
Mus.		336	18th Century Counterpoint		2
Mus.	233	234	Solfege	2	2
Mus.			Ensemble	1	1
Mus.	251	252	History & Literature of Music	3	3
Gen.			Core	3	3
Mus.			Music Electives	3	3
				18	18
Junior Year					
Mus.	105	105	Seminar	0	0
Mus.	121	121	Guitar	3	3
Mus.	335		16th Century Counterpoint	2	
Mus.		232	20th Century Techniques		2
Mus.			Ensemble	1	1
Mus.	379	380	Conducting	2	2
Gen.			Core	3	3
			Electives	3	3
Mus.			Music Electives	2	2
Mus.		398	Junior Recital	0	0
				16	16
Senior Year					
Mus.	105	105	Seminar	0	0
Mus.	121	121	Guitar	3	3
Mus.			Ensemble	1	1
Mus.	340		Orchestration	2	
Mus.	341		Analysis	2	
Mus.		400	Recital		1
Gen.			Core	3	3
			Electives	4	3
Mus.			Music Electives		4
				15	15

Total Credits: 13

MAJOR IN ORGAN

Courses				Credits	
				Fall	Spring
Freshman Year					
Mus.	105	105	Seminar	0	0
Mus.	118	118	Organ	3	3
Mus.	119	119	Piano	1	1
Mus.	131	132	Theory	2	2
Mus.	133	134	Solfege	2	2
Mus.			Choral Ensemble	1	1
Mus.	121	122	Eurhythmics	2	2
Gen.			Core	6	6
				17	17
Sophomore Year					
Mus.	105	105	Seminar	0	0
Mus.	118	118	Organ	3	3
Mus.	119	119	Piano	1	1
Mus.	231		Theory	2	
Mus.		336	18th Century Counterpoint		2
Mus.	233	234	Solfege	2	2
Mus.			Choral Ensemble	1	1
Mus.	251	252	History & Literature of Music	3	3
Gen.			Core	3	3
			Electives	3	3
				18	18
Junior Year					
Mus.	105	105	Seminar	0	0
Mus.	118	118	Organ	3	3
Mus.	335		16th Century Counterpoint	2	
Mus.		232	20th Century Techniques		2
Mus.			Choral Ensemble	1	1
Mus.	379	381	Conducting	2	2
Gen.			Core	3	3
			Electives	5	5
Mus.		398	Junior Recital	0	
				16	16
Senior Year					
Mus.	105	105	Seminar	0	0
Mus.	118	118	Organ	3	3
Mus.	451	452	Organ Literature	2	2
Mus.			Choral Ensemble	1	1
Mus.	340		Orchestration	2	
Mus.	341		Analysis	2	
Mus.		400	Recital		1
Mus.	431	432	Organ Improvisation	2	2
			Electives	4	5
				16	14

Total Credits: 132

MAJOR IN PIANO

<i>Courses</i>			<i>Credits</i>	
			<i>Fall</i>	<i>Spring</i>
Freshman Year				
Mus.	105	105	Seminar	0 0
Mus.	119	119	Piano	3 3
Mus.	131	132	Theory	2 2
Mus.	133	134	Solfege	2 2
Mus.			Choral Ensemble	1 1
Mus.	121	122	Eurhythmics	2 2
Gen.			Core	3 3
Mus.			Music Electives	3 4
			16	17
Sophomore Year				
Mus.	105	105	Seminar	0 0
Mus.	119	119	Piano	3 3
Mus.	231		Theory	2
Mus.		336	18th Century Counterpoint	2
Mus.	233	234	Solfege	2 2
Mus.			Choral Ensemble	1 1
Mus.	251	252	History & Literature of Music	3 3
Mus.			Chamber Music or Piano Accompaniment	2 2
Gen.			Core	3 3
Mus.			Music Electives	2 2
			18	18
Junior Year				
Mus.	105	105	Seminar	0 0
Mus.	119	119	Piano	3 3
Mus.	335		16th Century Counterpoint	2
Mus.		232	20th Century Techniques	2
Mus.			Choral Ensemble	1 1
Mus.	379	381	Conducting	2 2
Mus.			Chamber Music or Piano Accompaniment	2 2
Gen.			Core	3 3
			Electives	3 3
Mus.		398	Junior Recital	0
			16	16
Senior Year				
Mus.	105	105	Seminar	0 0
Mus.	119	119	Piano	3 3
Mus.			Choral Ensemble	1 1
Mus.	340		Orchestration	2
Mus.	341		Analysis	2
Mus.		400	Recital	1
Mus.	141	141	Chamber Music	2 2
Gen.			Core	3 3
Mus.	313	314	Piano Pedagogy	2 2
			Electives	2 2
			17	14

Total Credits: 13

MAJOR IN VOICE

Courses				Credits	
				Fall	Spring
Freshman Year					
Mus.	105	105	Seminar	0	0
Mus.	120	120	Voice	3	3
Mus.	119	119	Piano	1	1
Mus.	131	132	Theory	2	2
Mus.	133	134	Solfege	2	2
Mus.			Choral Ensemble	1	1
Mus.	121	122	Eurhythmics	2	2
Gen.	113		Italian for Singers	2	
Mus.		116	Italian Diction and Repertory		2
Gen.			Core	3	3
				16	16
Sophomore Year					
Mus.	105	105	Seminar	0	0
Mus.	120	120	Voice	3	3
Mus.	119	119	Piano	1	1
Mus.	231		Theory	2	
Mus.		336	18th Century Counterpoint		2
Mus.	233	234	Solfege	2	2
Mus.			Choral Ensemble	1	1
Mus.	251	252	History & Literature of Music	3	3
Gen.	114		French for Singers	2	
Mus.		117	French Diction and Repertory		2
Mus.			Opera Workshop	1	1
Mus.			Vocal Coaching	1	1
				16	16
Junior Year					
Mus.	105	105	Seminar	0	0
Mus.	120	120	Voice	3	3
Mus.	335		16th Century Counterpoint	2	
Mus.		232	20th Century Techniques		2
Mus.			Choral Ensemble	1	1
Mus.	379	380	Conducting	2	2
Gen.	115		German for Singers	2	
Mus.		118	German Diction and Repertory		2
Gen.			Core	6	6
Mus.			Opera Workshop	1	1
Mus.			Vocal Coaching	1	1
Mus.		398	Junior Recital		0
				18	18
Senior Year					
Mus.	105	105	Seminar	0	0
Mus.	120	120	Voice	3	3
Mus.			Choral Ensemble	1	1
Mus.	340		Orchestration	2	
Mus.	341		Analysis	2	
Mus.		400	Recital		1
Mus.		119	English Diction and Repertory		2
Gen.			Core	3	3
			Electives	3	4
Mus.			Opera Workshop	1	1
Mus.			Vocal Coaching	1	1
				16	16
Total Credits: 132					

MAJOR IN ORCHESTRAL INSTRUMENTS

Courses				Credits	
				Fall	Spring
Freshman Year					
Mus.	105	105	Seminar	0	0
Mus.			Applied Music Major	3	3
Mus.	119	119	Piano	1	1
Mus.	131	132	Theory	2	2
Mus.	133	134	Solfege	2	2
Mus.			Ensemble	1	1
Mus.	121	122	Eurhythmics	2	2
Mus.	141	141	Chamber Music	2	2
Gen.			Core	3	3
				16	16
Sophomore Year					
Mus.	105	105	Seminar	0	0
Mus.			Applied Music Major	3	3
Mus.	119	119	Piano	1	1
Mus.	231		Theory	2	
Mus.		336	18th Century Counterpoint		2
Mus.	233	234	Solfege	2	2
Mus.			Ensemble	1	1
Mus.	251	252	History & Literature of Music	3	3
Gen.			Core	3	3
			Electives	3	3
				18	18
Junior Year					
Mus.	105	105	Seminar	0	0
Mus.			Applied Music Major	3	3
Mus.	335		16th Century Counterpoint	2	
Mus.		232	20th Century Techniques		2
Mus.			Ensemble	1	1
Mus.	379	380	Conducting	2	2
Mus.	141	141	Chamber Music	2	2
Gen.			Core	6	6
Mus.		398	Junior Recital		0
				16	16
Senior Year					
Mus.	105	105	Seminar	0	0
Mus.			Applied Music Major	3	3
Mus.			Ensemble	1	1
Mus.	340		Orchestration	2	
Mus.	341		Analysis	2	
Mus.		400	Recital		1
Mus.	141	141	Chamber Music	2	2
			Electives	6	9
				16	16

Total Credits: 132

BACHELOR OF SCIENCE IN MUSIC EDUCATION-CHORAL TRACK

Courses				Credits	
				Fall	Spring
Freshman Year					
Mus.	105	105	Seminar	0	0
Mus.	101	102	Piano for Music Ed I & II	2	2
Mus.	131	132	Theory	2	2
Mus.	133	134	Solfege	2	2
Mus.	105		Voice for Music Ed I	2	
Mus.	121		Woodwind Techniques I	1	
Mus.	101	102	Intro to Music Ed I & II	1	1
Mus.			Applied Music	2	2
Mus.			Ensemble	1	1
Mus.	121	122	Eurhythmics	2	2
Gen.			Core	3	6
				18	18
Sophomore Year					
Mus.	105	105	Seminar	0	0
Mus.	231		Theory	2	
Mus.		336	18th Century Counterpoint		2
Mus.	233	234	Solfege	2	2
Mus.			Ensemble	1	1
Mus.	251	252	History & Literature of Music	3	3
Mus.	221		Brass Techniques I	1	
Mus.	251	252	Music Ed Methods I & II	2	2
Mus.		253	Music Ed Methods Lab		1
Mus.			Applied Music	2	2
Mus.			Applied Voice or		
			Advanced Piano Class		2
Gen.			Core		3
			Elective	3	
				16	18
Junior Year					
Mus.	105	105	Seminar	0	0
Mus.	340		Orchestration	2	
Mus.			Applied Music Major	2	2
Mus.	481		Percussion Techniques	2	
Mus.		381	String Techniques		2
Mus.			Ensemble	1	1
Mus.	379	380	Conducting	2	2
Edu.			Ed Psych	3	
Mus.		485	Music in Education		3
Mus.	300		Teaching Vocal Music	2	
Mus.	301		Teaching Vocal Music-Lab	1	
Mus.			Choral Lab	1	
Mus.		302	Teaching Instrumental Music		2
Mus.		303	Teaching Instrumental Music Lab		1
			Elective	2	
			Acoustics		3
				18	16
Senior Year					
Mus.	487		Senior Seminar	1	
Mus.			Applied Major	2	
Mus.			Ensemble	1	
Gen.			Core	9	
			Electives	3	
Mus.		491	Student Teaching		12
				16	12

Total Credits: 132

BACHELOR OF SCIENCE IN MUSIC EDUCATION-INSTRUMENTAL TRACK

Courses				Credits	
				Fall	Spring
Freshman Year					
Mus.	105	105	Seminar	0	0
Mus.	101	102	Piano for Music Ed I & II	2	2
Mus.	131	132	Theory	2	2
Mus.	133	134	Solfege	2	2
Mus.	105		Voice for Music Ed I	2	
Mus.	121	122	Woodwind Techniques I	1	1
Mus.	101	102	Intro to Music Ed I & II	1	1
Mus.			Applied Music	2	2
Mus.			Ensemble	1	1
Mus.	121	122	Eurhythmics	2	2
			Elective		2
Gen.			Core	3	3
				18	18
Sophomore Year					
Mus.	105	105	Seminar	0	0
Mus.	231		Theory	2	
Mus.		336	18th Century Counterpoint		2
Mus.	233	234	Solfege	2	2
Mus.			Ensemble	1	1
Mus.	251	252	History & Literature of Music	3	3
Mus.	221	222	Brass Techniques I & II	1	1
Mus.	251	252	Music Ed Methods I & II	2	2
Mus.		253	Music Ed Methods-Lab		1
Mus.			Applied Music	2	2
Gen.			Core	3	3
			Elective	2	
				18	17
Junior Year					
Mus.	105	105	Seminar	0	0
Mus.	340		Orchestration	2	
Mus.			Applied Major	2	2
Mus.	481		Percussion Techniques	2	
Mus.		381	String Methods		2
Mus.			Ensemble	1	1
Mus.	379	380	Conducting	2	2
Edu.			Ed Psych	3	
Mus.		485	Music in Education		3
Mus.	301		Teaching Vocal Music	2	
Mus.	300		Teaching Vocal Music-Lab	1	
Mus.		302	Teaching Instrumental Music		2
Mus.		303	Teaching Instrumental Music-Lab		1
Mus.		325	Research Band Methods		1
Mus.			Choral Lab	1	
Gen.			Acoustics		3
				16	17
Senior Year					
Mus.	487		Senior Seminar	1	
Mus.			Applied Major	2	
Mus.			Ensemble	1	
Gen.			Core	9	
			Electives	3	
Mus.		491	Student Teaching		12
				16	12

Total Credits: 132

BACHELOR OF SCIENCE IN MUSIC THERAPY

Courses				Credits	
				Fall	Spring
Freshman Year					
Mus.	105	105	Seminar	0	0
Mus.	101	102	Piano Class	2	2
Mus.	131	132	Theory	2	2
Mus.	133	134	Solfege	2	2
Mus.			Applied Music	2	2
Mus.			Ensemble	1	1
Mus.	121	122	Eurhythmics	2	2
Mus.	107		Music Therapy Orientation	3	
Mus.		124	Music Therapy Practicum		2
Gen.			Core	3	3
				17	16
Sophomore Year					
Mus.	105	105	Seminar	0	0
Mus.	231		Theory	2	
Mus.		336	18th Century Counterpoint		2
Mus.	233	234	Solfege	2	2
Mus.			Ensemble	1	1
Mus.	251	252	History & Literature of Music	3	3
Mus.	124	124	Music Therapy Practicum	2	2
Mus.	108		Music in Therapy	2	
Mus.			Applied Music	2	2
Gen.			Core	3	3
Ed.		305	Foundations of Special Ed.		3
				17	18
Junior Year					
Mus.	105	105	Seminar	0	0
Mus.			Ensemble	1	1
Mus.			Voice	2	
Mus.	308		Influence of Mus. on Behavior	3	
Mus.		374	Mus. & Move for Excep. Person		3
Mus.		315	Piano Improv. for Therapy, or Music Methods Elective		2
Mus.			Guitar	2	
Mus.	124	124	Music Therapy Practicum	2	2
Psy.			Psychology Elective	3	
Gen.			Core	3	6
			Elective		3
				16	17
Senior Year					
Mus.	105	105	Seminar	0	0
Mus.			Ensemble	1	1
Mus.	379		Conducting	2	
Mus.	340		Orchestration	2	
Mus.	124	124	Music Therapy Practicum	2	2
Mus.	309		Directed Study	2	
Mus.		307	Psych. of Music Teach. & Learn		3
Mus.		310	Recreational Music		1
	101		Anatomy and Physiology	3	
Psy.		352	Abnormal Psychology		3
Mus.		493	Clinical Experience		1
Gen.			Core	3	
			Elective		6
				15	17
Total Credits: 133					

BACHELOR OF MUSIC IN SOUND RECORDING TECHNOLOGY

Courses				Credits	
				Fall	Spring
Freshman Year					
Mus.	105	105	Seminar	0	0
Mus.			Ensemble	1	1
Mus.			Applied Music	2	2
Mus.	119	119	Piano	1	1
Mus.	131	132	Theory	2	2
Mus.	133	134	Solfege	2	2
Mus.	121	122	Eurhythmics	2	2
Mus.		141	Music & Technology		2
Mus.			Intro to Electronics		2
Gen.			Core	6	3
				16	17
SOPHOMORE YEAR					
Mus.	105	105	Seminar	0	0
Mus.			Ensemble	1	1
Mus.			Applied Music	2	2
Mus.		336	18th Century Counterpoint		2
Mus.	119	119	Piano	1	1
Mus.	231		Theory	2	
Mus.	251	252	History & Literature of Music	3	3
Mus.	233	234	Solfege	2	2
Mus.	145		Audio I	3	
Mus.		146	Audio II		3
Mus.			Electronics for Audio		2
Gen.			Core	3	
				17	16
JUNIOR YEAR					
Mus.	105	105	Seminar	0	0
Mus.			Ensemble	1	1
Mus.			Applied Music	2	2
Mus.	335		16th Century Counterpoint	2	
Mus.		232	20th Century Techniques		2
Mus.	379		Conducting	2	
Mus.	340		Orchestration	2	
Mus.	149		Audio III (group lesson)	2	
Mus.			Mixing and Mastering		2
Mus.	121	121	Music Synthesis	2	2
Mus.			Studio Design		2
			Elective	2	
Gen.			Core	3	6
				18	17
SENIOR YEAR					
Mus.	105	105	Seminar	0	0
Mus.	106		Internship	2	
Mus.			Ensemble	1	1
Mus.	314		Analysis	2	
Mus.			Music Synthesis Adv. Production	2	
Mus.			Applied Music	2	2
Mus.			Maintenance 1 & 2	2	2
			Elective	3	6
Mus.			Recording Studio Arranging	2	
Mus.		400	Final Project in Recording Arts/Recital		1
Gen			Core		3
				16	15

Total Credits: 132

COURSE DESCRIPTIONS

PERFORMANCE

Applied Music. 1-3 cr.
Private study of voice, piano, harpsichord, organ, guitar or orchestral instruments.

107. Piano Accompanying. 1 cr.
This course is designed for the undergraduate with the purpose of affording the student instruction in the art of piano accompanying.

115. Vocal Coaching. 1-3 cr.
Individual work with pianist as a supplement to Opera Workshop and/or Applied Music.

French, Italian, German for Singers. cr.
Rudiments of each foreign language offered on a rotating basis in the fall semester in preparation for the appropriate Diction and Repertory course offered in the following spring.

116, 117, 118, 119.

Diction and Repertory. 2 cr. each
Italian, German, French and English offered on a rotating basis each Spring Semester. All except English preceded by an introductory course in the fall, in the appropriate language.

221. Harpsichord Class. 1-3 cr.
An introduction to the harpsichord, including history, design, and mechanics. Techniques and performance practice included, with an equal emphasis on solo repertoire and continuo playing.

313. Piano Pedagogy I. 2 cr.
Students will become acquainted with the techniques and materials for teaching piano at the elementary level. For piano majors; junior standing is required.

314. Piano Pedagogy II. 2 cr.
A continuation of 313 concentrating on the techniques and materials for teaching piano at the intermediate and advanced levels.

398. Junior Recital. 0 cr.
The candidate for the Bachelor of Music degree must give a recital during the junior year.

400. Recital. 1 cr.
The candidate for the Bachelor of Music degree must give a recital during the senior year. The recital will be presented to a faculty committee for approval at least one month prior to the date of the performance.

ENSEMBLE/CHAMBER MUSIC

Required for all students as laboratory work during most semesters of full-time enrollment. Non-music majors are invited to register for ensemble with permission of instructor.

Large Ensembles. 0-1 cr. each
The Large Ensembles include Wind Symphony, Orchestra, Concert Choir, Chamber Singers, and Jazz Band.

Small Ensembles. 0-1 cr. each
The Small Ensembles include Trombone Choir, Brass Ensemble, Guitar Ensemble, Jazz Band, Percussion Ensemble, various woodwind ensembles, and Electronic Ensemble.

116. Opera Workshop. 0-1 cr.
A performing class in which students learn standard and other opera repertory in the original languages.

141. Chamber Music. 2 cr.
Study and performance of all types of chamber music for various instrumental combinations.

MUSICIANSHIP

121, 122. Dalcroze Eurhythmics I & II. 2 cr. each

Experiencing, analyzing, and creatively manipulating the metric/structural and the expressive/interpretive components of music through rhythmic movement, ear-training and improvisation.

131, 132. Theory I and II. 2 cr. each

These sequential courses are designated to acquaint the student with the harmonic materials of art music of the Western Civilization. For basic knowledge the Baroque-Classical idiom is explored. Harmony is examined in full, but formal and textural aspects are also discussed. Class contents include part writing, analysis, keyboard work, dictation, harmonic and intervallic ear training, and drills with computers. The classes meet twice a week for lectures, and once a week for an in-depth laboratory session. The scope of the first two semesters includes diatonic harmony, secondary dominants and simple modulation. Prerequisite: passing the entrance examination to the School of Music.

133, 134. Solfege I & II. 2 cr. each

These sequential courses are designed to develop students' competencies in the areas of intervals, melodic and rhythmic dictation as well as sight singing in traditional meters and tonalities. Prerequisite: passing the entrance exam to the School of Music.

231. Theory III. 2 cr.

This semester completes the study of materials of the Baroque and Classical style with emphasis on chromatic harmony and advanced modulation, then presents some of the most important elements of the Romantic and 20th Century idioms. Class meetings and the elements of teaching are the same as in 131 and 132. Prerequisites: 131 and 132.

233, 234. Solfege III & IV. 2 cr. each

A continuation of 134, these sequential courses are designed to develop students' competencies in the areas of intervallic relationships, melodic and rhythmic

mic dictation as well as clef reading and sight singing in nontraditional tonalities and meters. Prerequisite for Solfege 233 is successful completion of Solfege 134.

236. 20th Century Techniques. 2 cr.

A survey of the melodic, harmonic, and contrapuntal resources employed by composers in the twentieth century. Readings, analysis and short creative projects will be assigned.

251, 252. History and Literature of Music.

3 cr. each

The survey embraces two semesters which are arranged chronologically. These courses seek to provide a broad historical frame of reference within which the relationship of music to the development of man's thought can be clearly seen, along with a survey and analysis of representative literature.

335. 16th Century Counterpoint. 2 cr.

The course is devoted to a study of the polyphonic technique of the 16th Century. The class meets twice a week for lectures, analysis, written assignments, and listening. The species approach is employed. Prerequisite: At least 2 semesters of Theory.

336. 18th Century Counterpoint. 2 cr.

A course study concerned with the contrapuntal technique of the period of J.S. Bach. Contents include lectures, written assignments, listening, and analysis. Prerequisites: Theory I, II, III.

340. Orchestration. 2 cr.

A study of the basic problems of scoring for individual instruments, particularly orchestral choirs, the entire orchestra, and unique instrumental combinations. Analysis of the techniques of orchestration of selected composers of the 18th, 19th, and 20th centuries.

341. Analysis. 2 cr.

A course designed to acquaint the student with the formal structure of tonal music, from the smallest components to the most complex full compositions through analysis, performing and listening.

351, 352. Composition. 2-3 cr.

A course in original creative writing. Open to all students with the approval of the teacher.

CONDUCTING

373. Instrumental Conducting I. 2 cr.

An introduction to baton technique with emphasis on basic patterns, cueing, and expression using the left hand. Students enrolled will form a laboratory ensemble allowing for conducting experience.

374. Instrumental Conducting II. 2 cr.

A continuation of Instrumental Conducting I with emphasis on score analysis and the development of a refined and expressive technique.

375. Choral Conducting I. 2 cr.

An introduction to basic conducting techniques with

emphasis on proper conducting posture, the preparatory gesture, the release, basic beat patterns and styles, use of the baton, and development of the left hand. Course also will include instruction in score reading, analysis and preparation with emphasis on the standard choral literature. Class time will be divided equally between lecture-demonstrations and practical conducting experience in a laboratory setting.

376. Choral Conducting II. 2 cr.

Instruction and application of intermediate and advanced conducting techniques with emphasis on subdivision, accent and syncopation, subito dynamic change, tempo alteration, tenuto and fermata, asymmetrical meters, supermetrics, and specialized techniques for conducting recitative, contemporary music, and musical theater. Course will include score analysis and preparation, and choral techniques and methods while focusing on the standard choral literature. Class time will be divided equally between lecture-demonstrations and practical conducting experience in a laboratory setting.

MUSIC EDUCATION

010, 011. Fundamentals of Piano, I & II.

2 cr. each

This course introduces students to basic piano skills including scales, triads, cadences sight-reading and improvisation. The course is intended for students preparing for Piano for Music Education I but is also open to non-music majors.

101, 102. Piano for Music Education, I & II.

2 cr. each

This class provides students with functional competencies in piano which meet the certification requirements for the PA Dept. of Education. It is required of all music education majors. Entrance to the class is on the basis of placement testing.

Advanced Piano Class.

For students who wish to focus on vocal or instrumental accompanying and open score reading. Required of non-piano majors in the vocal track in music ed. Prerequisite: completion of Piano for Music Ed. II. Also open to piano majors.

105. Voice for Music Education I. 2 cr.

For all vocal and instrumental track majors. Fundamental techniques of singing, including posture, breath support, tone, diction, interpretation. All students will participate in a vocal lab emphasizing clinical experience.

121, 122. Woodwind Techniques, I, II. 1 cr. each

Introduction to techniques of clarinet, saxophone, oboe, flute and bassoon with an emphasis on development of teaching skills.

221, 222. Brass Techniques I, II. 1 cr. each

Introduction to techniques of trumpet, french horn and low brass with an emphasis on development of teaching skills.

321. Percussion Techniques. 2 cr.
Introduction to techniques of percussion instruments with an emphasis on development of teaching skills.

322. String Techniques. 2 cr.
Introduction to techniques of violin, viola, cello and bass with an emphasis on teaching techniques.

325. Researching Band Methods. 1 cr.
An overview of band methods with an emphasis on marching band styles.

251. Music Education Methods I. 2 cr.
A multifaceted course leading to competencies in guitar, recorder, classroom instruments, multicultural music, and mainstreaming. Clinical experience included.

252. Music Education Methods II. 2 cr.
A continuation of Music Education Methods I with the addition of Computer Assisted Instruction techniques and materials, plus an overview of contemporary methodologies including Kodaly, Dalcroze, Orff and Suzuki; music technology. Clinical experience included.

253. Music Education Methods II Lab. 2 cr.
Clinical experience for 252. Teaching and observing general music lessons.

300. Teaching Vocal Music. 2 cr.
For the advanced music education student in both tracks. Methodologies and materials to develop competencies for teaching in the vocal area, grades K-12. Clinical experience included. All 100 and 200 level courses are prerequisites.

301. Teaching Vocal Music Lab. 1 cr.
Clinical experience for 301. Teaching weekly general music lessons, incorporating computer assisted instruction.

Choral Lab. cr.
Weekly field observations and clinical experience with choral groups. Required with 301.

302. Teaching Instrumental Music. 2 cr.
A survey of methodology necessary for the development of, and the administration of, the band and orchestra program on the elementary, intermediate, and secondary levels. Practical application will be provided through field experience.

303. Teaching Instrumental Music Lab. 1 cr.
A laboratory experience to provide teaching and performance experiences with families of instruments. Required with 302.

485. Music in Education 3 cr.
The course focuses on selected historical, philosophical, social, legal, and economic factors in American education; current issues are also studied. The role of music education within general education is discussed.

488. Music Education Seminar. 1 cr.
For the advanced music education student. Introduction to Music Education research, stressing contemporary issues. A seminar project is required.

491. Student Teaching. 12 cr.
For the senior music education student who has completed all required music and professional education classes satisfactorily and has been recommended by the faculty for student teaching. Practice teaching with approved cooperating teachers in instrumental and vocal classes, K-12 under the guidance of a university supervisor for a 14-week period. Students also attend on-campus seminars during this period. Additional course work may not be scheduled concurrent with student teaching.

JAZZ STUDIES

141. Chamber Music-Jazz. 2 cr.
The purpose of this course is to develop the skills and techniques necessary for small jazz ensemble performance. Emphasis is on rhythm section techniques, interaction among the members of the group, and development of repertoire.

151. Evolution of Jazz Styles. 2 cr.
A study of the origin, development and styles of jazz music and its ramifications with an emphasis on recorded music as well as scores.

226. Jazz Improvisation. 2 cr.
Study and practice of melodic improvisation; conventional forms and chord progressions, employing idiomatic jazz and articulations, major-minor and modal scales; altered scales and chords, extended forms; practical applications to standard and jazz literature.

333. Ear Training for Jazz Musicians. 2 cr.
The course is designed to train the student to recognize aurally the melodic, rhythmic and harmonic elements of contemporary jazz. The devices used are sight-singing, keyboard work and extensive dictation. Emphasis is placed on four, five and six-note chords, chromatically altered chords and polychords.

341, 342. Jazz Composition. 2-3 cr.
A course in original creative writing in the jazz idiom. Open to all students with the approval of the teacher.

430. Jazz Arranging. 2 cr.
A study of the basic techniques of scoring for individual instruments and jazz ensembles of various sizes, from small groups to studio orchestras. Analysis of scores by contemporary big band arrangers.

440. Jazz Theory. 2 cr.
Student learns five and six part harmony, chromatically altered chords, chord spacing and voice leadings appropriate to jazz writing.

MUSIC THERAPY

107. Music Therapy Orientation. 3 cr.
An introduction to Music Therapy as practiced in

a variety of rehabilitation settings. Observations followed by informal group discussions. Basic theory about the validity of music as therapy; the relationship of theory to practice. Intensive class participation will be required to prove qualification for further, in-depth study of the profession.

108. Music in Therapy. 2 cr.
An introduction to music methods utilized in therapy settings. Assessment, planning, implementation and evaluation of sessions which will be designed for a variety of populations will be emphasized.

124. Practicum. 2 cr.
Field placement in a clinical setting for a minimum of 15 hours per semester. Certified music therapists and other specially trained staff who work within the settings assist in the development and growth of the prospective music therapist.

307. Psychology of Music Teaching and Learning. 3 cr.
A study of physiological, psychological, and sociological aspects of music teaching and learning. Emphasis on current research.

308. Influence of Music on Behavior. 2 cr.
Reviews different treatment theories and their relationship to music therapy. Emphasizes the effects of music on behavior and total health. Develops a philosophy of music therapy with a background in holistic health.

309. Directed Study in Music Therapy. 2 cr.
Study topics from areas of music therapy, psychology of music, brain research and other expressive therapies are reviewed and discussed.

310. Recreational Music in Therapy. 1 cr.
Planning, demonstrating, and evaluating music activities for patient populations served by music therapists. Skills in leading group music activities, circle and square dances. Music Therapy Majors only. Competency in accompanying with guitar and/or piano is emphasized.

315. Piano Improvisation for Music Therapy. 2 cr.
Development of functional keyboard skills in improvisation on rhythm and dissonant chords as an aid in non-verbal communication with the handicapped client.

374. Music and Movement for the Exceptional Person. 3 cr.
A course of study and experience to train the student to use music and movement as a tool to promote therapeutic and educational growth. Focus on developmental needs correlated with appropriate materials and methods.

SACRED MUSIC

322. Sacred Choral and Solo Literature. 2 cr.
A survey of choral and vocal literature for the church

with emphasis on practical materials for church choirs, soloists and congregations.

403. Service Playing. 2 cr.
The objective of this course is to develop the service playing skills necessary to play for church services of all denominations through a study of applied harmony, counterpoint, hymnody, anthem accompaniments and conducting from the console. Students unable to enroll for this course will study this material in their applied music lesson.

410. Church Music Practicum. 3 cr.
Seminar in practical aspects of church music; establishing the music program in a church; graded choir systems; children's choirs; instruments in workshop; contracts; cantor systems; worship commissions, etc.

420. Hymnody. 2 cr.
A study of the church's heritage of song; the psalms; the great hymns of the Medieval Church; the heritage of Luther, Calvin and their followers; English hymnody; American contributions; twentieth-century hymnody with special emphasis on the theological framework for each major development in the history of hymns.

421. Gregorian Chant. 2 cr.
The history, notation and modal system of Gregorian chant. Class participation in the singing of chant. Chant as prayer and current liturgical application.

431, 432. Organ Improvisation. 2 cr. each
A practical application of the basic tools of improvisation including harmonization of melodies at the organ, two and three part counterpoint, short ABA forms and chorale preludes with emphasis on their liturgical application.

451, 452. Organ Literature. 2 cr. each
A survey of organ literature and organ buildings as it relates to organ registration. The first semester treats organ music from the Renaissance through J. S. Bach. The second semester deals with the literature from 1750 to the present. Outside listening and readings will be required.

476. Organ Design and Maintenance. 2 cr.
A study of the basic concepts of organ construction with emphasis on the historical development of the organ and the mechanical operation of the pipes and console. Tuning, voicing, and esthetics of organ design will be discussed.

MUSIC TECHNOLOGY/ SOUND TECHNOLOGY

141. Music and Technology. 2 cr.
An introduction to music technology utilizing the resources of the Synthesizer and Recording Studio

145. Audio I. 3 cr.
Foundations of the recording process. Covered are all aspects of the recording chain and basic production procedures. Lab required.

146. Audio II. 3 cr.

An intensive study of the commercial multi-track recording process. Advanced production projects. Lab required. Prerequisite: Audio I.

149-151. Audio III. 1-3 cr.

Advanced studio; small group projects.

Introduction to Electronics. 2 cr.

A study of the fundamentals of electronics dealing specifically with theory and terminology. Prerequisites: Music and Technology, Audio I and Acoustics.

Electronics for Audio. 2 cr.

An introduction to fundamental modern electronic theory specifically dealing with DC and audio circuit design and construction. Prerequisite: Introduction to Electronics.

Maintenance I. 2 cr.

A study of fundamental equipment maintenance in the modern recording/synthesis studio. Prerequisite: Electronics for Audio.

Maintenance II. 2 cr.

Advanced maintenance, troubleshooting, grounding and interconnection of modern recording studios. Prerequisite: Maintenance I.

Mixing and Mastering. 2 cr.

An in-depth study of the elements of audio mixing and their implications for the different mastering processes. Various practices of mixing along with mixing for mastering are studied and practiced. All

current forms of mastering including L.P., C.D., and Cassette will be covered. Also included is exposure to the process of subcontracting mastering houses. Prerequisite: Audio II.

Recording Studio Arranging. 2 cr.

Musical skills needed for recording studio arranging, conducting and composition. Focus on the various idiomatic styles (Jazz, Pop, Electronic, and Classical) for musical flexibility. Prerequisites: Music and Technology, Audio I and Acoustics.

Studio Design. 2 cr.

A study of the approaches to environmental acoustic design when dealing specifically with recording studios. Design and construction techniques are examined along with resources available to implement them. Prerequisite: Acoustics.

GENERAL**105. Seminar. 0 cr.**

Registration for Seminar is required of all undergraduate Music majors during most semesters of full-time enrollment. Course matriculation guarantees availability for master classes, student club meetings, and guest lectures held during the Tuesday and Thursday "common hour" periods.

170. Enjoyment of Music. 3 cr.

An introduction to music appreciation especially designed for (but not limited to) non-music majors.



School Of Nursing

Administration:

Dean:

Ruth C. Maszkiewicz, R.N., Ph.D.

Associate Dean, Undergraduate Program:

Joanne F. White, R.N., Ph.D.

Associate Dean, Graduate Program:

Theresa L. Carroll, R.N., Ph.D.

HISTORY

Since it is the policy of the University to establish its schools under control of an already established school, the School of Nursing was originally organized in 1935 as a unit in the College of Liberal Arts and Sciences. On March 15, 1937, the Department of Nursing Education was given the status of a separate school with a Dean in charge.

On December 3, 1937, the State Board of Education of the Commonwealth of Pennsylvania approved the school and authorized Duquesne University to confer the degree of Bachelor of Science in Nursing and the degree of Bachelor of Science in Nursing Education upon graduates according to the appropriate curriculum. The program leading to the degree of Bachelor of Science in Nursing Education was designed to meet the specific needs of the registered nurse while the basic program leading to the degree of Bachelor of Science in Nursing, the first in Pennsylvania, was designed for the high school graduate. The School of Nursing continued to offer two separate programs leading to two separate degrees until 1964. In September of that year, a single revised professional nursing program was implemented for admission of both basic and registered nurse students leading to the degree of Bachelor of Science in Nursing.

In the Fall of 1982, a new baccalaureate nursing program, also leading to the degree of Bachelor of Science in Nursing, was instituted and was specifically designed to meet the educational and professional needs of the registered nurse.

To date, more than 3000 students have graduated from Duquesne's School of Nursing.

SCHOOL OF NURSING PHILOSOPHY AND DEFINITION OF NURSING

The philosophy of the School of Nursing evolves from that of Duquesne University. This philosophy provides a framework for a personal philosophy of life based on the Judeo-Christian frame of reference and supports a commitment to the values which give meaning to life.

In making explicit the philosophy that underpins the theoretical framework of nursing at Duquesne

University, the concepts of *man* and *health* are related to nursing as a human science. *Man* is a unique creation of God whose defining characteristics are rationality, volition, and sentience. Further, man is whole and shares a mutually open existence with his environment.

Health is dynamic, contextual, and individual. It is experienced by the total person in all aspects of living. Active participation in one's own health is required for the individual to actualize his/her health potential. All choices in life impact on one's health.

The faculty of the School of Nursing defines nursing as an academic discipline and a service profession which focuses on health promotion for the individual within the family/group/community.

The nurse applies knowledge and theories from the discipline of nursing, the humanities, and the natural and behavioral sciences to the promotion of health. Health promotion occurs through the utilization of the nurse/client/ family process as the nurse exercises his/her leadership abilities in care giving and health education.

The faculty believes that the academic discipline of professional nursing as a human science is primarily concerned with the health care of man and his family from conception to death. Nursing focuses on helping individuals and families to enhance the quality of living through the promotion of health. The nurse initiates interrelationships with clients and families to assist them in describing their health, evaluating alternatives, and mobilizing their resources for planning change. Central to nursing practice is the nurse/client/family process which is deliberate, systematic and individually designed. This is a shared process where decision making is focused on the freedom to choose within the context of the situation.

The nurse substantiates nursing practice through theories, concepts and research findings. The professional nurse is a creative and independent practitioner who finds satisfaction in initiating the process of nursing and who regularly evaluates self and plans for continuing self-growth. The professional nurse promotes the discipline of nursing and provides direction for the future of nursing through systematic inquiry.

The learning process is one in which the teacher and learner plan experiences, share knowledge and evaluate results. The emergence of new knowledge is encouraged through continuous inquiry and research. The evolving responsibilities with the nursing profession are based upon trends, technology, and characteristics of the population for whom health care will be delivered.

The uniqueness of the Duquesne University Baccalaureate is founded upon an appreciation and understanding of the philosophical beliefs about man-environment, health, nursing, and learning and is reflected in the graduate's practice of nursing.

ing. The graduate recognizes that the responsibility for the health situation is a shared process in which the nurse, client, and family actively participate.

The Duquesne University School of Nursing Baccalaureate Program graduates a generalist who is prepared to practice in a variety of settings. The program emphasizes nursing as a human science and provides a foundation for graduate study.

PROGRAM PURPOSES AND GOALS

The purposes of the program are:

1. To prepare the graduate to practice nursing as a human science in a variety of settings utilizing appropriate strategies to meet the complex and changing health needs of individuals/families/groups/ community and,
2. To provide the foundation for graduate education in nursing.

Within the philosophy and purposes of the School of Nursing, the faculty has formulated a curriculum that provides learning experiences to assist students to acquire specific knowledge and skills. The goals of this program state that upon completion of the program, the graduate:

1. Promotes the rights, responsibilities, and dignity of man in health care.
2. Synthesizes knowledge from the related sciences, the humanities and nursing theories in applying the nursing process.
3. Utilizes political, cultural, and social processes in promoting the health of individuals within their environment.
4. Utilizes the nursing process in the promotion of health with client/family/groups along the life continuum in a variety of settings.
5. Synthesizes principles of the learning process to promote the health of clients, families, and groups.
6. Initiates health care from the perspective of the client/family/group/community's value system.
7. Utilizes knowledge of ethical and legal dimensions in making nursing practice decisions.
8. Utilizes the research process in planning nursing care with the client/family/group.
9. Accepts responsibility and accountability for nursing practice.
10. Assumes the role of advocate in participating with other health care providers and consumers in the promotion of health.
11. Utilizes leadership skills for the improvement of health care to meet the emerging needs of consumers in a changing society.
12. Strives to enhance the profession of nursing.
13. Enhances own effectiveness in professional nursing roles through on-going evaluation and continuous self-growth.

DEGREE

The School of Nursing undergraduate program leads to the degree of Bachelor of Science in Nursing.

PROGRAM OF STUDY

The School of Nursing offers a program with a major in nursing leading to a baccalaureate degree in Nursing to qualified high school graduates, registered nurses, non-nursing baccalaureate graduates, and qualified transfer students. The program includes four years of study, and is designed to provide the student with the knowledge and the skills needed to practice as a professional nurse generalist upon graduation. The general and professional education acquired in this program provides a basis for the graduate to progress to positions of increasing responsibility and to undertake graduate study.

The curriculum is designed to provide a strong liberal arts and science base. The course offerings in the natural, biological and human sciences and the University core courses support the philosophy that provides the basis for the conceptual framework of the professional nursing program. Professional nursing courses, which constitute the nursing major, include theory and practice in the nursing care of individuals and families. Learning opportunities are provided in hospitals, in homes, and in the community.

The faculty of the School of Nursing conducts all professional nursing courses and also guides and directs the practicum learning experiences. A variety of hospitals and agencies cooperate with the School of Nursing to provide a wide selection of excellent practice settings.

Upon the successful completion of their program of studies, graduates will be eligible to write the NCLEX-RN examination for licensure in the state in which they wish to practice.

The faculty reserves the right to make changes in the curriculum and program requirements which are believed to be in keeping with the changing health needs of society and/or the best interest of the students and the School to maintain quality professional nursing education. The undergraduate program of studies is fully approved by the State Board of Nursing and is fully accredited by the National League for Nursing.

ADMISSION REQUIREMENTS

ADMISSION OF HIGH SCHOOL GRADUATES

Students who are interested in applying for admission to the School of Nursing should request an application from the Office of Admissions, Duquesne University, Pittsburgh, PA 15282. The specific entrance requirements for admission are:

1. The applicant's high school curriculum must

include a minimum of 16 units distributed as follows: (1 unit = 1 year)

English	4 years required
Social Studies	3-4 years recommended
Language	2 years recommended
Math & Science	4 years required
	Biology 1 year
	Chemistry 1 year
	Algebra 1 year
	One additional year
	is also required in
	science or math.
	i.e., Physics, Algebra,
	Computers, etc.

2. A candidate must have been graduated from an approved secondary school in the upper two-fifths of the class, and must have demonstrated exemplary personal conduct in the institution.

3. The primary consideration for admission is the secondary school academic record. This is considered to be the most important criterion of success at Duquesne University. It is the desire of the Admissions Committee to admit those candidates who possess qualities of character and intellect and who show promise of development into useful and contributing citizens.

As of January 1986, felonious acts prohibit licensure in Pennsylvania. A person convicted of any felonious act may be prohibited from licensure by the State Board of Nursing. At the time of application to the School of Nursing an individual who is currently under charge or who has incurred a felony conviction must notify the Dean of Nursing in writing of the fact and nature of the felony charge/conviction.

4. A candidate must present satisfactory scores on the required College Entrance Examination Board Scholastic Aptitude Test in accordance with the standards to which the University adheres.

Other additional School of Nursing requirements include evidence of physical and emotional health adequate to meet the demands of the program and compliance with the standards of personal conduct as outlined in the School of Nursing *Standards of Personal Conduct* policy. Following notification of acceptance to the University by the Office of Admissions, the School of Nursing candidate must:

1. Submit the School of Nursing's required health form to the School of Nursing.

2. Submit a signed *School of Nursing Standards of Personal Conduct Statement*.

In specific instances, and at the discretion of the Committee on Admissions, the equivalent of these requirements may be accepted in lieu of the foregoing precise requirements. See the section on Admissions for other University requirements.

TRANSFER STUDENT ADMISSION

See the section on Admissions for further University requirements

Admission criteria for transfer students

1. A cumulative Q.P.A. of 2.5 from the transferring institution.
2. 1 unit of chemistry and 1 unit of algebra, which can be from either a secondary school or postsecondary institution.
3. Personal interview with a representative of the School of Nursing, and two letters of reference.
4. Felony conviction notification and compliance with the *Standards of Personal Conduct Policy* as indicated above.
5. Evidence of physical and emotional health adequate to meet the demands of the program as indicated above.

Provisions affecting Placement

1. No transfer student can be accepted into nursing practicum courses during the first semester of attendance at Duquesne University.
2. Only courses taken within the past ten years will be evaluated for transfer credit. For courses in the natural sciences, the limit is five years. This time limit may be waived in specific instances.

REGISTERED NURSE STUDENTS

Duquesne University School of Nursing also offers the registered nurse an opportunity to obtain the baccalaureate in nursing degree. Part-time or full-time enrollment is available to allow the registered nurse to continue to be employed while undertaking the course of study. Through the acceptance of transfer credits, CLEP testing, and challenge examinations, the School of Nursing strives to apply the registered nurse's previous learning experience towards the requirements of the B.S.N. degree.

Specific information concerning the acceptance of transfer credits, eligibility for CLEP testing and challenge examinations can be obtained by contacting the R.N./B.S.N. Program Chairman within the School of Nursing.

Admission Requirements— R.N./B.S.N. Program

Students who are interested in applying for admission to the R.N./B.S.N. Program should request an application from the Office of Admissions, Duquesne University, Pittsburgh, Pa. 15282.

- High school diploma or equivalent
- Graduation from an accredited associate degree or diploma nursing program (2.5 Q.P.A. minimum)
- Verification of current licensure as a registered professional nurse in Pennsylvania
- Present or past experience in nursing

- Verification of active malpractice insurance
- Fulfillment of science and math prerequisites to the nursing clinical courses
- Personal interview with the R.N./B.S.N. Program Chairman in the School of Nursing
- Felony conviction notification and compliance with the *Standards of Personal Conduct Policy* as indicated above.
- Evidence of physical and emotional health adequate to meet the demands of the programs as indicated above.

SECOND DEGREE PROGRAM

Applicants holding a baccalaureate with a major other than nursing must follow transfer student admission procedures. They should also arrange for a personal interview with a representative of the School of Nursing.

TEMPORARY TRANSFER

With prior written approval, a nursing student may take courses during the summer at an accredited college or university other than Duquesne University. A student wishing to do this will become a temporary transfer student, providing he or she receives the necessary clearance from both institutions.

1. A student must bring to the School of Nursing Associate Dean, Undergraduate Program both the catalog description of courses he or she wishes to take and the schedule for the summer session in which they are given. This request will be evaluated for course equivalency and appropriateness.

2. Ordinarily, a student who has acquired 60 or more credits may not receive advanced standing for courses taken at accredited community or two-year colleges. Students desiring waiver of this policy must obtain the permission of the Student Standing Committee of the School of Nursing.

3. A candidate for the Bachelor's degree must complete the last 30 credits (exclusive of challenge credits) toward the degree at Duquesne University.

4. The student is responsible for earning a minimum of a C grade, or its equivalent if he or she expects to receive advanced standing. The student must arrange to have an official copy of the transcript of grades earned at the institution in which he or she is a temporary transfer sent to the Office of the Associate Dean, Undergraduate Program in the School of Nursing in order to receive advanced standing. This transcript must be sent immediately upon completion of the course. Credit can only be given once for courses that are repeated.

ADDITIONAL EXPENSES* AND REQUIREMENTS

Student Liability Insurance (Professional)
(annually) \$ 25.00

Uniforms, nurse's cap, nurse's shoes,
identification pin \$120.00
Transportation to and from clinical
agencies (weekly) \$ 10.00
School of Nursing pin, upon graduation
(if desired) cost varies
Physical examinations, diagnostic procedures,
and immunizations
1st year (including chest x-ray) \$150.00
2nd-4th year \$ 50.00
Physical Assessment Kit \$ 40.00
Senior Assessment Examination \$ 25.00
*All expenses are approximate

Certification in Cardio-Pulmonary Resuscitation (CPR) is a prerequisite to all nursing clinical courses. Students must show evidence of current CPR certification prior to entering the clinical area.

An annual physical examination and certain immunizations and health tests are required for all students in the School of Nursing. Preclinical students must complete specific health requirements by August 1 before proceeding to the clinical practicum. The School of Nursing provides information on required school uniforms to students prior to entrance into the clinical area. Nursing students enrolled in clinical courses must purchase liability insurance in the amounts of \$1,000,000/3,000,000 professional and \$1,000,000 personal coverage.

All students enrolled in the School of Nursing must show evidence of health insurance coverage including accident/injury coverage annually throughout enrollment.

Each student is responsible for transportation to and from hospital and other clinical agencies. Each student will be expected to have access to an automobile to permit experience with home care of clients and their families.

STUDENT ORGANIZATIONS

Each nursing student is a member of the general student body and may select and participate in any of the campus organizations. There are numerous social sororities and organizations as well as professional organizations. These organizations exist for the promotion of the scholarly and professional interests of members:

Alpha Tau Delta (meaning "through force of character") is a national professional fraternity for persons in nursing. Theta Chapter was chartered on the Duquesne University campus on April 21, 1938. Eligibility is limited to full-time students who have completed a minimum of one semester in the School of Nursing with a cumulative quality point average of 2.5.

Student Nurses Association of Pennsylvania. The Student Nurses Association of Pennsylvania (SNAP) is a constituent of the National Student Nurses

Association, Inc. (NSNA). The purpose of SNAP is to assume responsibility for contributing to nursing education; to provide programs representative of fundamental and current preprofessional interest and concerns; and to aid in the development of the whole person. Active membership is open to undergraduate students enrolled in state approved programs leading to licensure as a registered nurse and registered nurses enrolled in undergraduate programs of nursing.

Class Organizations. Each class is an officially recognized organization in the School of Nursing. As such, each class elects its own officers and conducts such programs and affairs as its members deem desirable toward achieving its goals.

Sigma Theta Tau is the international nursing honorary society. The Duquesne University Nursing Honor Society was granted a chapter of Sigma Theta, Tau, Epsilon Phi, in November of 1981. Membership is open to students, faculty, and alumni who meet the criteria for election.

Nursing Alumni Association. Upon graduation, each graduate is cordially invited to join this organization as a School of Nursing Alumni.

HONOR AWARDS

In addition to graduation honors, these awards and others are presented at Honors Day:

The Mary W. Tobin Gold Medal and *The Dean Johnson Memorial Medal* are awarded annually to two outstanding seniors chosen by the faculty. The Mary W. Tobin Gold Medal is awarded by the Theta Chapter of Alpha Tau Delta National Professional Fraternity for persons in nursing. It was established in 1945 to honor Mary Tobin, the first Dean of the School, on the occasion of her retirement from the University. *The Dean Johnson Memorial Medal* established in 1963 commemorates Dean Johnson's contributions to the growth of the School of Nursing as its second Dean.

Four new awards were presented for the first time in 1983. The first award on behalf of Miles Laboratories, Inc., is awarded annually to the outstanding graduating senior in the area of acute care nursing. The award is called the *Miles Laboratories Award for Excellence in Nursing Practice in the Acute Care Setting*. The second award is called the *Lanza Award for Excellence in Home Health Nursing*, and is sponsored by Lanza, Hospital Equipment for the Home. This award is presented annually to the graduating senior demonstrating outstanding ability in the area of community health. The third award is sponsored by the United States Air Force. This award, *the Air Force Leadership in Nursing Award*, is presented to the graduating senior best demonstrating outstanding leadership qualities (in general), contributions to the nursing program and/or class, and evidence of community service and commitment to the profession.

The fourth award is for excellence in scholarship, leadership and professional commitment, and is awarded to a graduating senior. This award is sponsored by Sigma Theta Tau International — Epsilon Phi Chapter.

Most recently, four new awards have been added: The Community Health Education Award, established in 1985, is awarded to recognize the graduating senior who demonstrates initiative, creativity, and teaching skills in promoting community health. The Faculty Recognition Award, established in 1986, is awarded to an outstanding graduating senior by faculty vote; and the Nursing Alumni Award, established in 1987, is awarded to a graduating senior for excellence in scholarship, professional commitment, and implementation of Duquesne's philosophy. In 1989, Sigma Theta Tau International, Epsilon Phi Chapter, instituted an additional award to recognize a graduating registered nurse student for excellence in scholarship, leadership, and professional commitment.

SENIOR DIAGNOSTIC ASSESSMENT EXAMINATION

A senior diagnostic assessment examination is required of all seniors. The purpose of this battery of tests is to provide a mechanism for feedback to students to help in identifying strengths and weaknesses in preparation for the NCLEX-RN licensing examination.

GRADUATION REQUIREMENTS

General University requirements for graduation are in the Academic policies section of this catalog. In addition, specific School of Nursing requirements are:

1. Completion of 124 credits.
2. A minimum cumulative over-all quality point average of 2.0.
3. Successful completion of all clinical practicum courses.
4. Completion of the required curriculum plan.
5. Removal of I and F grades in all required courses.
6. A candidate for the Bachelor's degree must complete the last 30 credits toward the degree at Duquesne University. Challenge credits are not included in this 30 credit requirement.
7. Submission of an application for the degree. No student is considered a degree candidate until he/she files an application for the degree on a form provided by the Registrar.

Degree requirements must be completed within 10 years after initial enrollment. At the end of the 10-year period, the student's record is re-evaluated in terms of the curriculum in effect at that time, and the student is advised of any additional require-

ments for graduation. The responsibility for fulfilling degree requirements rests with the student.

RECOMMENDED COURSE SEQUENCE†

Freshman			
Fall		Spring	
Courses	Credits	Courses	Credits
101 Thinking/Writ. Across/Curr.*	3	102 Imag. Lit/Crit. Writ.*	3
113 Bases of Human/Th/Act.*	3	Theology Core*	3
111 Princ. of Chemistry	4	151 Shap. of Mod. World*	3
N100 Orientation to Prof. Nurs.	3	201 Biology of Microbes	3
	13	112 Princ. of Chemistry	4
			16

Sophomore			
Fall		Spring	
Courses	Credits	Courses	Credits
207/8 Anatomy & Phys. I	4	209/10 Anat. & Phys. II	3
N222 Human Dev./Life Cont.	4	N252 Nutr. for Health Promo.	4
N272 Basic Comm. In Nurs.	2	003 Basic Pharmacology	3
125 Fund. of Statistics	3	N262 Health Promo/Nurs.	
225 Family Systems	3	Process	5
	16	N233 Intro. to Research	
		in Nursing	1
			16

Junior			
Fall		Spring	
Courses	Credits	Courses	Credits
N312 Pathology	4	N330 Found. of Gerontic	
N350 Physical Assessment of		Nursing	2
The Adult & Child	2	N360 Nurs. Care/Adult	
N320 Nurs. Care/Adult Client I	7	Client II	7
352 Abnormal Psychology	3	N370 Psych/Mental Health	
	16	Nurs. Care Adult	3
		General Elective	3
			15

Senior			
Fall		Spring	
Courses	Credits	Courses	Credits
N410 Nursing Care of the			
Childbearing Family	5	N455 Nsg. Leadership/Mgmt.	
N420 Nursing Care of the		of Client Care	4
Child and Family	5	N475 Promo. Health with	
N430 The Research Process		Individuals/Families/	
in Nursing	3	Groups in the Community	3
Humanities Elective	3	N485 Trends and Issues	
	16	in Nursing	3
		N495 Advanced Concepts	
		in Clinical Nursing	3
		Nursing/General	
		Elective	3
			16
		TOTAL = 124 Credits	

University Core Courses

Tentative plan pending faculty final approval.

Student Rights

Bill of Rights—A statement of the student Bill of Rights is available to all students in the Duquesne

University Student Handbook. The Student Handbook can be acquired in the student government office located in the student union.

School of Nursing Grievance Procedure

Grievance procedures must be initiated within 30 calendar days of the occurrence which gave rise to the grievance. With the knowledge of the involved parties, either party may request that another person be present during the discussions.

If difficulty arises between student and faculty, the student should first discuss the difficulty with the person directly involved.

If the matter is not satisfactorily resolved, the appropriate Department Chairman should be consulted. If the problem persists, the Associate Dean of the Undergraduate Program should then be contacted.

If the problem is not satisfactorily resolved, a consultation with the Dean of the School of Nursing should be arranged, and the appeals committee in the School should be convened.

Should the problem still remain unresolved, a "Request of Hearing" form should be filed with the Vice President for Academic Affairs within 20 days of the appeals' committee decision.

If the Vice President for Academic Affairs findings determine that a legitimate grievance exists, he will convene the academic due process committee. In all cases, the decision of the academic due process committee is final. If the Vice President for Academic Affairs finds that a legitimate grievance does not exist, he/she will inform the student within (30) days of his/her determination.

REGULATIONS

Students in the School of Nursing are preparing themselves for entry into a respected health profession where the highest degree of character and sense of responsibility are basic requirements. As such, they are expected to conduct themselves, at all times, in a manner befitting this position and according honor to it. For these reasons, the School of Nursing insists on strict adherence to the following regulations.

1. **Class Attendance.** Attendance is expected for every class session of each course within the School of Nursing. Students are expected to attend the *entire* class session. Specific class attendance requirements (in relation to grading) will be stated in each course syllabus. Acceptable reasons for absence will be in accordance with the current *Undergraduate Catalog* statement of scholastic policies. Consideration of any other request for an excused absence will be at the instructor's discretion.

A student who is unable to attend class because of serious illness, hospitalization, a serious accident or other extenuating circumstances is responsible for notifying the appropriate faculty member or

Department Chairman and the Associate Dean of the Undergraduate Program, School of Nursing. A student who is absent for cause is expected to complete all of the work in all courses. It is the student's responsibility to make up all assignments in all courses and to be familiar with any instructions which may have been given during the absence. Attendance is mandatory for all scheduled hours in the clinical area. This includes community clinical hours as well as those scheduled in the acute care area. Acceptable reasons for absence will be in accordance with the current *Undergraduate Catalog* statement of scholastic policies. The student is expected to notify the clinical instructor of the absence prior to the scheduled clinical time. The specific procedure for this notification will be at the discretion of the clinical instructor. Consideration of any other request for an excused absence will be at the instructor's discretion. Tardiness or unexcused absence(s) are serious offenses of professional responsibility and accountability that may result in failure to meet course goals and objectives.

Handicapped students requiring special assistance are urged to notify the class instructor before or at the first class.

2. *Health Requirements.* All School of Nursing students are required to conform to the health requirements of the School of Nursing.

3. *Mathematics Competency.* All School of Nursing students must demonstrate mathematics competency by means of a written examination prior to progression to Junior level clinical courses.

Curriculum Standards

To progress to the upper division nursing practice courses, a minimum cumulative Q.P.A. of 2.0 is required with a minimum of a C grade in the natural and applied sciences (Chemistry, Biology of Microbes, Anatomy and Physiology I and II, Nutrition for Health Promotion, Basic Pharmacology and Pathology), and all Freshmen and Sophomore level required nursing courses. Providing a minimum C grade is achieved in the Anatomy and Physiology I and II theory courses, at least a minimum D grade is required in the Anatomy and Physiology I and II laboratory courses.

Students must achieve a C grade in all nursing courses except nursing electives. The clinical component of all nursing practice courses is graded on a pass-fail basis. The student must obtain a pass grade in the clinical portion and a minimum of a C grade in the theory portion in order to pass the course.

Students may repeat three clinical nursing courses one time. Students may repeat nursing didactic (non-clinical) courses one time.

The student is cautioned to seek regular advice from the faculty and to keep a record of credits earned and the calculated averages. The School

assumes no responsibility for such errors appearing in student records which may prevent the student from being graduated.

The School of Nursing faculty reserves the right to withdraw any student from the nursing major who, in its opinion, has not progressed satisfactorily in nursing practice even though the quality point average meets required standards.

The faculty of the School of Nursing also reserves the right to make any changes in the curriculum that seem necessary or desirable.

COURSE DESCRIPTIONS

Descriptions of courses in liberal arts and sciences may be found in the College of Liberal Arts and Sciences section, page 40. Descriptions of University core courses may be found on page 36.

100. Orientation to Professional Nursing.	3 cr.
222. Human Development Throughout the Life Continuum.	4 cr.
233. Introduction to Research in Nursing.	1 cr.
252. Nutrition for Health Promotion.	4 cr.
262. Health Promotion Through the Nursing Process.	5 cr.
272. Basic Communications in Nursing.	2 cr.
312. Pathology.	4 cr.
320. Nursing Care of the Adult Client I.	7 cr.
330. Foundations of Gerontic Nursing.	2 cr.
350. Physical Assessment of the Adult and Child.	2 cr.
360. Nursing Care of the Adult Client II.	7 cr.
370. Psychiatric-Mental Health Nursing Care of the Adult.	3 cr.
410. Nursing Care of the Childbearing Family.	5 cr.
420. Nursing Care of the Child and Family.	5 cr.
430. The Research Process in Nursing.	3 cr.
455. Nursing Leadership and Management of Client Care.	4 cr.
475. Promotion of Health with Individuals/Families/Groups in the Community.	3 cr.
485. Trends and Issues in Nursing.	3 cr.

100. *Orientation to Professional Nursing.* 3 cr. This course introduces students to the discipline of nursing as a human science, and provides the framework for explaining the practice of professional nursing according to the philosophy of Duquesne University School of Nursing. Students explore the assumptions about man and environment beginning with the valuing process and self-esteem as a means of valuing self. In addition, students examine beliefs about man, environment, and health and how they make a difference in the practice of nursing.

Professional nursing is explored from the historical aspect as it relates to present and emerging roles. The relationship of nursing research and theories is examined with a concentration on the nursing

theories of Rogers, King, Orem and Watson. Students begin to investigate how nursing theories serve as a basis for the practice of nursing.

222. Human Development Throughout the Life Continuum. 4 cr.

This course builds upon the major concepts of man, environment, health and nursing. The student studies human development from conception through death. Emphasis is placed on an individual's psychological, intellectual and personality development within the context of the family, society and culture. Health promotion practices are explored relative to each age group throughout the life continuum. This course provides the basis for students to assess the developmental stages in the clinical environment. Prerequisite: Bases For Human Thought and Action.

233. Introduction to Research in Nursing. 1 cr.

This basic course is designed to introduce the student to the nature of inquiry; the historical evolution of nursing research; the nurse as a consumer of research; and the utilization of the library as a means of fostering the consumer role. Prerequisite: Orientation to Professional Nursing.

252. Nutrition for Health Promotion. 4 cr.

This course focuses on nutrition and the nursing role in health promotion for individuals and groups throughout the life cycle. Emphasis is placed on nutrition assessment and intervention. Food needs for energy and the major nutrients are considered for the promotion of health. Prerequisites: Principles of Chemistry 111 and 112.

262. Health Promotion Through the Nursing Process. 5 cr.

This course is designed to introduce students to the application of concepts and skills relevant to the practice of professional nursing. The course explores man's personal health patterns and includes an introduction to alterations in health patterns. Students study the nursing process as the vehicle for providing nursing care to clients. The concepts of health education, rehabilitation and loss and grief are incorporated. Students identify the interrelationship of these theoretical components in man's experience of health. The professional role is explored within the framework of the nursing process. Prerequisites: CPR Certification, Orientation to Professional Nursing, Anatomy & Physiology I, Anatomy & Physiology II (concurrent), Human Development Throughout the Life Continuum (concurrent), Basic Communications in Nursing (concurrent).

272. Basic Communications in Nursing. 2 cr.

This is a basic theory course in communication. Students examine the theoretical components of the communication process, and modalities of nursing theories while exploring their own style of communication, evaluating the effectiveness of com-

munication, and learning ways to change one's pattern of relating. This course is foundational to nursing practice as interaction is essential to the nursing process. It is given prior to or concurrent with Health Promotion through the Nursing Process to enable students to begin to apply communication theory with clients in a long-term setting. Prerequisite: Orientation to Professional Nursing.

312. Pathology. 4 cr.

This course is a theory course designed to acquaint students with the structural and functional changes that occur as the result of illness, as well as the body's remarkable ability to compensate for those illness-related changes. Since the abnormal changes can ultimately be traced to underlying molecular, cellular and histological deviations from the homeostatic state, the mechanisms that disrupt this optimal state will also be elucidated. In addition, the basic mechanisms involved in the pathogenesis of various body systems and the body as a whole are emphasized and contrasted with the similar mechanisms that support normal health. Prerequisites: Biology of Microbes, Anatomy and Physiology I and II.

320. Nursing Care of the Adult Client I. 7 cr.

Nursing Care of the Adult Client I is the first clinical nursing course offered at the Junior level. This course builds on previously learned knowledge of natural and human sciences, concepts from selected nursing theorists, and Pathology and Physical Assessment which are taken concurrently with this course. The student is provided with the opportunity to apply the nursing process in caring for adult clients in a variety of acute medical-surgical settings. Basic concepts related with the integrity of biological, psycho-social, spiritual and environmental health patterns are presented. Concepts of loss/grief, oncology and rehabilitation are integrated throughout the course.

Students explore the ways in which adult clients respond to alterations in health and hospitalization. Knowledge of alterations in health and how these changes influence the adult client's unique experience of biological, psycho-social, spiritual and environmental patterns of health, well-being, and life style is integrated to provide wholistic and individualized nursing care. Students also examine how different socio-cultural values influence health patterns, and utilize adult teaching/learning principles to meet the client's health education needs. Prerequisites: Health Promotion Through the Nursing Process, Basic Communications in Nursing, Nutrition for Health Promotion, Physical Assessment of the Adult and Child (concurrent), and Pathology (concurrent).

330. Foundations of Gerontic Nursing. 2 cr.

This course builds upon the knowledge of the concepts of human growth and development throughout the life continuum, upon foundational nursing





elective. Students explore the universal and timeless truth of the spiritual dimension of human nature. Case histories in nursing are investigated which focus on spiritual needs encountered in the nurse/client/family relationship.

Students are encouraged to develop an awareness of their own spiritual dimension and its growth through nursing experiences. In addition, students discover the gift they bring to the nursing situation when spiritual needs are recognized and shared (entered into) with the client. (Spring only)

353. Health Care Ethics. 3 cr.
This course is designed to help students consider the purpose of ethics and the role of ethics in their own lives and in the health care setting. The students are helped to gain a more developed sense of their own beliefs and how they deal with ethical issues and ethical decision-making. In addition they are guided in the process of articulating and debating their reasons for various stances.

Various ethical systems, professional codes of ethics, and a model for ethical decision-making will be discussed. Through case study analysis, the students resolve ethical dilemmas and justify the decisions made.

Further, various issues of an ethical nature, that present themselves in the health care context, are discussed. (Spring only) Prerequisites: none.

380. Critical Care Nursing. 3 cr.
This course builds on medical-surgical concepts learned in Nursing Care of the Adult Client I and II and concepts from selected nursing theorists. The student is provided with the opportunity to care for clients/families in the critical care setting. Students examine the ways in which life-threatening alterations in patterns of health affect critically ill clients/families. Students integrate indepth knowledge of Anatomy and Physiology and Pathophysiology to provide wholistic nursing care of clients/families in the critical care setting. The student continues to utilize adult teaching-learning principles to identify health education needs and develop plans to meet these needs. (Summer only and with special permission) Prerequisite: Nursing Care of the Adult Client II.

397. Health Care of Women. 3 cr.
Health Care of Women is a nursing elective that provides students with an opportunity to explore many of the prevalent health experiences of women in contemporary society in the United States. This course investigates aspects of women's health and choices relative to the quality of their lives. It provides students with an opportunity to analyze health promotion for women from a historical and nursing perspective and provides them with the knowledge of health resources available to meet the specific

needs of women. Prerequisite: Health Promotion Through the Nursing Process.

399. Health Education. 3 cr.
This course focuses upon the nurse's role as health educator and allows the student to explore the dynamic world of health education in today's society. The major issues confronting the nurse as a teacher are emphasized together with the processes of valuing and change in health education. The learning needs of the client-family are carefully scrutinized. The student has the opportunity to write and implement a teaching plan, design an evaluation tool, and create teaching aids. Prerequisite: Health Promotion Through the Nursing Process.

433. Introduction to Nursing Informatics. 2 cr.
This course introduces the student to nursing informatics, or computer applications to clinical practice, administration, research, and education in nursing. Hardware and software systems are presented in the context of nursing applications of computers for individual and organizational purposes. Opportunities are presented for the student to use software packages for wordprocessing, spreadsheet design and execution, basic programming, and data-based management of information to simulate uses of these computer applications in professional nursing. Examples of actual computer applications in nursing will be presented so that the student can appreciate the use of computer technology by nurses in their respective areas of clinical practice, administration, research, and education. Prerequisite: Computer Literacy.

N459. Transcultural Nursing. 3 cr.
Transcultural Nursing builds on the basic concepts of man, health, nursing, and environment, and their interrelationships as developed in the student's previous sciences, humanities, and nursing courses. Emphasis is placed on the development of Leininger's model of transcultural nursing and transcultural health care systems. Various issues related to the nurse's role in the delivery of health care and the client's acceptance of health care are explored. Emphasis is placed on the assessment and analysis of selected cultural diversities as related to nursing practice. Methods utilized in transcultural nursing research that foster culture-specific nursing care are included. Prerequisite: Health Promotion Through the Nursing Process.

466. Choosing the Living in Dying. 3 cr.
Choosing the Living in Dying is a non-clinical nursing elective. The focus of the course is on dying as an evolutionary life experience. Emphasis is placed on the quality of living throughout the dying process. The learners will expand their perspectives of the dying process and current issues in America

related to that process. Meaning is enhanced through the sharing of thoughts, feelings and perceptions within the group process.

**497, 498 or 499. Directed Study
in Nursing.**

1-3 cr.

These courses are designed to provide students with a unique opportunity to pursue an area of interest in nursing that enriches and expands upon basic

knowledge provided in the required program of studies. Students have the opportunity to generate objectives and behavioral outcomes related to the area of interest they wish to pursue, and to formulate and implement a plan of study to achieve these objectives. Prerequisites: Health Promotion Through the Nursing Process, minimum cumulative QPA 2.0.







Second Year				Spring Semester				D* L* C*						
Fall Semester				D*	L*	C*	322 Pharmacology-Drug Mechanisms II				4	—	4	
205 Organic Chemistry I				3	4	4	306 Pharmaceutics-Pharmacokinetics IV				3	4	4	
201 General Physics I				4	2	4	314 Medicinal Chemistry-Natural Products II				4	—	4	
131 Bases of Human Thought and Action (University Core)				3	—	3	431 Behavioral Aspects of Illness General or Professional Elective				2	—	2	
151 Shaping of Modern World (University Core)				3	—	3					3	—	3	
General Elective				3	—	3					16	4	17	
				16	6	17								
Spring Semester				D* L* C*				Fifth Year						
206 Organic Chemistry II				3	4	4	Fall Semester				D*	L*	C*	
141 Social, Political, Economic Systems (University Core)				3	—	3	440 Therapeutics				6	—	6	
161 Arts and the Human Experience (University Core)				3	—	3	323 OTC Drugs				2	—	2	
General Elective				3	—	3	430 Patient Counseling & Education				1	2	3	
220 Human Anatomy & Physiology I				4	—	4	333 Drug Literature Resources				1	1	1	
				16	4	17	324 Public Health-Emergency Treatment General or Professional Elective				3	1	3	
											3	—	3	
											16	4	18	
Third Year				D* L* C*										
Fall Semester				D*	L*	C*	Spring Semester				D*	L*	C*	
317 Human Anatomy & Physiology II				3	3	4	441 Practical Pharmacy I-Clinical Clerkship				—	—	3	
301 Basic Pharmaceutics-Pharmacy Math I				3	4	4	432 Practical Pharmacy II-Community				—	—	3	
309 Biochemistry-Nutrition				3	3	4	433 Practical Pharmacy III-Hospital				—	—	3	
230 Pharmacy Law				3	—	3	434 Practical Pharmacy IV-Optional				—	—	12	
				12	10	15					—	—	12	
Spring Semester				D*	L*	C*								
318 Pathophysiology				3	—	3								
302 Basic Pharmaceutics II				3	4	4								
319 Medical Microbiology-Immunology				3	3	4								
310 Analysis of Drug Substances				4	—	4								
326 Pharmacy Administration				3	—	3								
				16	7	18								
Fourth Year														
Fall Semester				D*	L*	C*								
321 Pharmacology-Drug Mechanisms I				4	—	4								
305 Pharmaceutics-Biopharmaceutics III				3	—	3								
313 Medicinal Chemistry-Natural Products I				4	—	4								
325 Pharmacy Management General or Professional Elective				4	—	4								
				3	—	3								
				18	—	18								

D*—Didactic hours, L*—Laboratory hours, C*—Credit hours.

Courses are to be completed in the designated sequence. Minimum credits for B.S. in Pharmacy Degree—163; sufficient elective courses must be taken to satisfy the minimum credit requirements.

Changes may be made in some parts of the curriculum indicated as a result of faculty evaluation of the Pharmacy curriculum.

AREAS OF CONCENTRATION

Six credits in Professional Pharmacy Electives is the minimum requirement for graduation. During the fourth year (earlier if possible) each pharmacy student is urged to select an area of concentration from one of the following areas: Community Practice,

The following courses are approved for the respective areas of concentration:

1. *Community Practice*
 471—Selected Topics in Prescription Drug Counseling
 481—Pharmacy Sales and Marketing
 482—Community Pharmacy Practice
 483—Aging and Health Care
 525—Advances in Drug Therapy
 561—General Toxicology
 566—Clinical Toxicology
 2. *Institutional Practice*
 483—Aging and Health Care
 491—Hospital Pharmacy Management
 801—Hospital Pharmacy Administration
 814—Parenteral Therapy
 815—Clinical Oncology
 819—Physical Assessment
 501—Manufacturing Pharmacy
 525—Advances in Drug Therapy
 539—Bionucleonics
 540—Advanced Bionucleonics and Radiopharmaceuticals
 561—General Toxicology
 566—Clinical Toxicology
 3. *Industrial Pharmacy*
 501—Manufacturing Pharmacy
 502—Pharmaceutical Formulation and Development
 504—Regulatory Aspects of Industrial Practice
 505, 506—Cosmetic Science and Technology with Lab
 510—Advanced Pharmacokinetics I
 511—Advanced Pharmacokinetics II
 522—Spectral Methods
 539—Bionucleonics
- Pharmacy students who select the Industrial Pharmacy area of concentration, may spend part of the required B.S. in Pharmacy practicum in an industrial setting.
4. *Nuclear Pharmacy*
 539—Bionucleonics
 540—Advanced Bionucleonics and Radiopharmaceuticals
 489—Problems in Health Physics (offered by Physics Department)
- Students who satisfactorily complete the nine-credit requirement of the Nuclear pharmacy area of concentration, are awarded a certificate. Also, Pharmacy students who select the Nuclear Pharmacy area of concentration, may spend part of the required B.S. in Pharmacy practicum in a nuclear pharmacy and/or nuclear medicine setting.
5. *Pre-Graduate Study*
 Students who select this option must consult with the chairman of the department of their area of

interest in order to select courses most adaptable to the program they desire to pursue. A combined B.S. in Pharmacy/M. S. in Pharmaceutical Sciences program is available to qualified students.

The following courses offered by the Graduate School of Pharmaceutical Sciences are available to qualified upperclassmen in the School of Pharmacy.

501. *Manufacturing Pharmacy.*
502. *Pharmaceutical Formulation and Development.*
504. *Regulatory Aspects of Industrial Practice.*
- 505, 506. *Cosmetic Science and Technology with Lab.*
510. *Advanced Pharmacokinetics I.*
511. *Advanced Pharmacokinetics II.*
522. *Spectral Methods.*
- 523, 524. *Advanced Medicinal Chemistry I and II.*
525. *Advances in Drug Therapy*
539. *Bionucleonics.*
540. *Advanced Bionucleonics and Radiopharmaceuticals.*
561. *General Toxicology.*
563. *Pathology.*
566. *Clinical Toxicology.*
569. *Toxins.*
570. *Drug Mechanisms I.*
572. *Methods of Evaluation of Drug Action and Toxicity.*

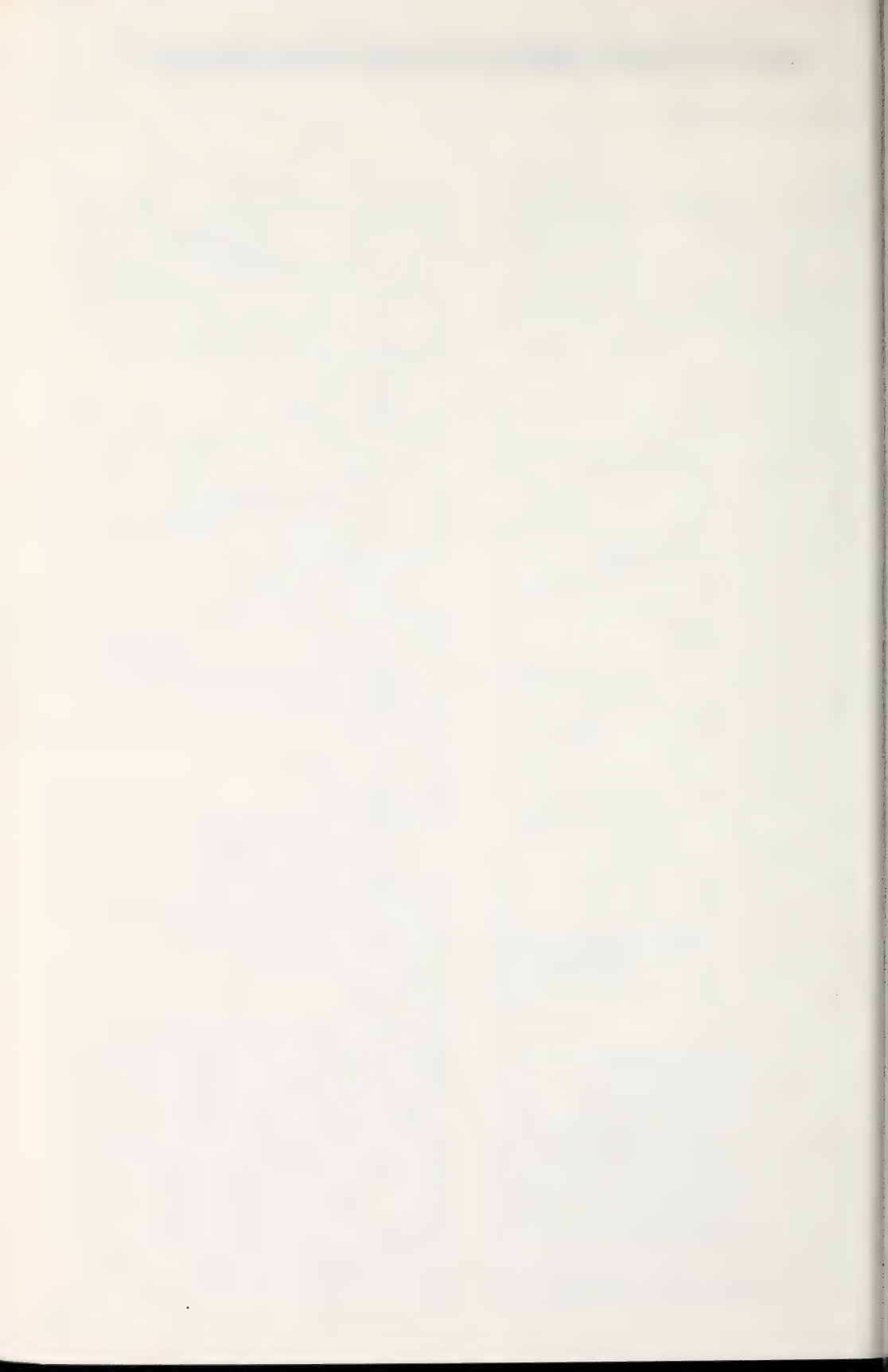
Descriptions of these courses may be found in appropriate publications.

Recently, the School of Pharmacy and the School of Business and Administration have initiated a combined degree program, B. S. in Pharmacy/Master in Business Administration.

ADMISSION

The School of Pharmacy admits students into the first, second, or third year of the pharmacy program. Application policies and procedures and general University entrance requirements are outlined in the Admissions section of this catalog.

Students who wish to enter the first year in the B.S. in Pharmacy program are advised to submit applications to the University Office of Admissions as early in the intended year of matriculation as possible. In addition to meeting general University admission standards, prospective pharmacy students must satisfy more specific admissions criteria established by the School of Pharmacy. Prospective freshman students are encouraged to meet with the Dean, Associate Dean, or the Dean's designate for a personal interview.





HONOR AWARDS

American Institute of the History of Pharmacy Award. A recognition certificate and gift publications are awarded annually by the American Institute of History of Pharmacy for superior achievement in pharmacohistorical study or activity.

McKesson American Pharmaceutical Association Award. A plaque provided by the McKesson Company is presented annually to the graduate who has made the most significant contribution to the Academy of Students of Pharmacy at Duquesne University.

Bristol Award. A plaque and a standard reference book is presented annually by the Bristol Laboratories, Inc., Syracuse, NY, to a Doctor of Pharmacy candidate for excellence in scholastic achievement.

Bristol Award. A plaque and a standard reference book is awarded annually by the Bristol Laboratories, Inc., Syracuse, NY, to the graduate who has in the opinion of the faculty attained unusual distinction in the work of pharmaceutical administration.

Sara A. Corey Award. An award presented annually to a graduating Pharmacy student who has demonstrated considerable involvement in community professional programs.

Faculty Award. The faculty of the School of Pharmacy may present an appropriate award to an outstanding member of the graduating class who has displayed exceptional qualities of academic excellence and a QPA of over 3.75.

Maurice H. Finkelppearl Award. An award of \$50 is presented annually to a student who intends to practice Community Pharmacy.

Galen Society Award. The Galen Society of Pittsburgh annually offers two \$25 awards to the two members of the graduating class who have achieved the highest standing in the departments of pharmacology and pharmaceutical chemistry.

Samuel W. Curtis Award. Annually an award of \$50 is presented to the graduate who has shown outstanding ability and interests in the field of pharmaceuticals.

McNeil Dean's Award. A replica of an Early American Mortar and Pestle is awarded annually to an outstanding student of Pharmacy Administration.

Lilly Achievement Award. A gold medal is presented annually to a member of the graduating class who has demonstrated superior scholastic and professional achievement as well as qualities of leadership.

Merck, Sharp and Dohme Award. Each year Merck and Company, Rahway, New Jersey, offers a set of valuable reference books to members of the graduating class who attain the highest averages in medicinal chemistry.

Rho Chi Award. Alpha Chapter of Rho Chi awards annually a suitable key to the student who earns the highest general average in all subjects during the first two years of the pharmacy program.

Roche Pharmacy Communications Award. A personalized plaque is awarded annually to the graduating student who has shown exceptional ability in patient communication through course work and application.

Smith, Kline & French Laboratories Award. A personalized plaque is presented annually by the Smith Kline & French Laboratories, Philadelphia, Pennsylvania, for superior achievement in Clinical Pharmacy by a graduating student.

Academy of Students of Pharmacy Award. Annually a certificate of recognition is presented to the graduating student who has demonstrated through service, reporting and activity, an avid interest in organization work.

Syntex Preceptor of the Year Award. An appropriately designed plaque is awarded annually by the Syntex Laboratories, Inc., of Palo Alto, California to the preceptor who, in the opinion of the Pharmacy Interns, best exemplifies professionalism, ethics, and clinical practice.

Upjohn Award. A suitably inscribed plaque and \$100 are awarded annually by the Upjohn Company, Kalamazoo, Michigan, in recognition of outstanding public service by a graduating student.

Western Pennsylvania Society of Hospital Pharmacists Award. Annually an award of \$50 is presented to the graduating senior who demonstrates outstanding ability and interest in the area of Hospital Pharmacy.

Lemmon Company Award. A certificate and award of \$50 to the graduating senior who has completed the degree program through unusual and extraordinary perseverance and determination in the opinion of the graduating class.

Pennsylvania Pharmaceutical Association Award. A certificate of recognition and one-year membership in the PPA is awarded annually to the graduate who has been most actively involved in pharmacy organizations.

J. Cornetti Tucci Award. An award is presented to the graduating student who has demonstrated excellence in pharmaceuticals.

Sandoz Doctor of Pharmacy Award. A commemorative plaque and monetary award which is provided by Sandoz, Inc., East Hanover, NJ, is awarded annually to an outstanding Doctor of Pharmacy graduate.

Mylan Award for Excellence in Pharmacy. An award presented annually to an academically superior B.S. in Pharmacy graduate who has demonstrated the highest level of achievement in the provision of drug information services and of professional motivation and promise.

Upjohn Research Award. A plaque and monetary award are presented annually to a graduating Pharm. D. student who has demonstrated superior research activities, as determined by the faculty, Department of Clinical Pharmacy.

GRADUATION REQUIREMENTS

A committee of the faculty will review the academic record of each candidate for graduation to ascertain full compliance with specific School of Pharmacy curricula requirements and the general University Graduation Requirements, as stated in the Academic Policies section of this catalog. This committee will then recommend candidates for faculty certification for graduation or for remedial work to be fulfilled prior to the granting of the degree. Communications pertaining to this certification may be entered in the Office of the Dean.

STATE LICENSING PENNSYLVANIA

A candidate for licensure as a Registered Pharmacist in the Commonwealth of Pennsylvania must meet the following requirements before he/she may be admitted to the licensing examinations which are conducted by the Pennsylvania State Board of Pharmacy:

1. Character—be of good moral character.
2. Professional Training—have a degree in Pharmacy granted by a School or College of Pharmacy, which is accredited by the American Council on Pharmaceutical Education.
3. Practical Experience and Internship—any person enrolled as a student of pharmacy in an accredited college may at the end of the second year of college file with the Pennsylvania State Board of Pharmacy an application for registration as a pharmacy intern.

To insure proficiency in the practical aspects of pharmacy, the State Board shall by regulation prescribe internship requirements which must be satisfactorily completed prior to sitting for the licensure exam and to issuance of a Pharmacist's License.

Specific information concerning practical experience requirements as well as all other requirements concerning licensure may be obtained from the State Board of Pharmacy, Department of State, Box 2649, Transportation and Safety Bldg., 6th Floor, Harrisburg, Pennsylvania 17120.

STATES OTHER THAN PENNSYLVANIA

According to law, the licensing of an applicant seeking to become registered as a pharmacist is under the sole jurisdiction of the state in which he/she seeks to practice. Although the requirements for licensure in the Commonwealth of Pennsylvania are similar to those of other states, differences may exist. Space limitations preclude a complete listing of the requirements of other states and the District of Col-

umbia. The candidate for licensure in another state is advised to consult the Board of Pharmacy in that particular state for complete and current information. Also internship requirements in other states differ from those in PA.

CAREER GUIDANCE CENTER

A Guidance Center has been established within the School of Pharmacy to keep students informed about the latest career opportunities available to those possessing a pharmacy education and to attract high school and college students to the profession.

The Center consists of faculty members, School of Pharmacy alumni, and pharmacy practitioners. It provides upon request speakers for career day programs and information to high school counselors on all matters relating to a pharmacy education and career.

Pamphlets containing career information on Pharmacy are also available through the Guidance Center. Inquiries should be directed to the Pharmacy Career Guidance Center, School of Pharmacy, Duquesne University, Pittsburgh, Pennsylvania 15282.

RESEARCH FOUNDATION

The Hugh C. Muldoon and Pharmacy Alumni Foundation of Duquesne University, established in 1950 to celebrate the twenty-fifth anniversary of the founding of the School of Pharmacy, is an increasingly valuable aid in helping to achieve the aims of the University and of the School of Pharmacy. The foundation provides funds for improving the instructional and research facilities of the School; it assists in the advancement of pharmacy by providing scholarship assistance to Pharmacy students and by supporting the training of undergraduate and graduate students in industrial and research procedures; it helps to extend the knowledge from research being conducted under the auspices of the School. Contributions are solicited from graduates and others interested in the work of the Foundation. They may be addressed in care of the School of Pharmacy.

COURSE DESCRIPTIONS

The courses of instruction are numbered in accordance with a plan uniform throughout the University.

University courses numbered 100 are Freshman courses; 200 Sophomore; 300 Junior; 400 Senior. Courses described in this section are required courses in the professional curriculum and those courses offered by the School of Pharmacy faculty as a University service. Courses numbered 500 are graduate level courses in which qualified undergraduate students may be enrolled with the permission of the instructor of the course. Credit for these





ing, diabetic coma, and others. Lecture, three hours; Laboratory, 1 hour.

471. Selected Topics in Prescription Drug Counseling.

3 cr.

A lecture course, with product discussions and demonstrations, intended to increase student knowledge of patient prescription drug counseling. The course will assist the student in organizing and presenting information to the patient based on an understanding of the similarities and dissimilarities between drug products of the same class, mechanism of action, clinical application, administration, need for compliance, storage directions, potential side effects and adverse reactions, and when and why the patient should contact a physician on medication problems. Lecture, with demonstrations, three hours.

DEPARTMENT OF PHARMACEUTICAL ADMINISTRATION

Chairman: Vincent J. Giannetti, Ph.D.

Faculty: Professor Giannetti; Associate Professors Harris, Kristofik; Assistant Professor Wu.

230. Pharmacy Law.

3 cr.

A course designed to acquaint the student with the philosophy of law and its relationship to pharmacy. Federal, state, and local laws and regulations pertinent to the handling and sale of drugs, cosmetics, narcotics, poisons, and alcohol are discussed. A review of antitrust laws, trade regulations, and court decisions of importance to the pharmacist is included. Elements of business law and civil responsibilities of the pharmacist are also covered. Ethical issues in pharmacy practice and health care are discussed. Lecture, three hours.

262. International Health Issues.

3 cr.

The course will explore factors that influence health care in diverse countries. Topics covered include: a comparison of health services; the use of regional planning by groups of small countries; prevention and control of specific diseases with special emphasis on communicable diseases; primary health care; the role of international agencies from the perspective of developed and developing countries; the constitutional, administrative and financial influences on health care; health priorities in the context of general needs. Lecture, three hours.

325. Pharmacy Management.

4 cr.

A course designed to familiarize students with the fundamentals of personnel, marketing, inventory, and financial management decisions with the overall objective of improving pharmacy practice efficiency. Lecture, four hours.

326. Pharmacy Administration.

3 cr.

A course designed to familiarize the student with the diverse social, political, economic, and legal forces affecting the practice of pharmacy. The course

considers the persons, places, and activities involved in providing health care services with special emphasis on the role of the pharmacist. Lecture, three hours.

430. Patient Counseling and Education.

3 cr.

A course designed to examine current counseling and communication techniques in terms of how they relate to patient education regarding personal health problems and compliance with medication regimens. The course will examine in detail basic interviewing techniques. Lecture-laboratory, two hours.

431. Behavioral Aspects of Illness.

2 cr.

A course designed to examine the current theory and research in the psycho-social correlates and consequences of illness and health. Topics will include the general areas of social stress research, theories of psycho-somatic medicine, the impact of social environment upon health, and the impact of illness upon the emotional and social functioning of the person. Prerequisite: Introductory course in sociology and/or psychology is highly recommended. Lecture, two hours.

432. Practical Pharmacy II—Community.

3 cr.

Required of all final-year Pharmacy students and involving placement in an operating community pharmacy with a pharmacist-preceptor. Off-campus placement is necessary. Note: Calendar change for fifth-year Pharmacy students may be required.

433. Practical Pharmacy III—Hospital.

3 cr.

Required of all final-year pharmacy students and involving placement in an operating hospital pharmacy with a pharmacist-preceptor. Off-campus placement is necessary. Note: Calendar change for fifth-year Pharmacy students may be required.

434. Practical Pharmacy IV—Optional.

3 cr.

Required of all final-year Pharmacy students and involving placement in an operating pharmacy or related practice setting with a pharmacist-preceptor. Off-campus placement is necessary. Note: Calendar change for fifth-year Pharmacy students may be required.

481. Pharmacy Sales and Marketing.

2 cr.

An introduction to the pharmaceutical manufacturer's role in marketing drug products. The concepts, elements, and functions involved in the distributive chain between the manufacturer of the drug and the ultimate user are considered. Lecture, two hours; Practicum, one hour.

482. Community Pharmacy Practice.

3 cr.

This course explores selected topics in the organization and operation of a pharmacy. Topics include organizing and financing a pharmacy, examining the economic and political environment, evaluating a third party program, marketing pharmacy services, assessing automating and computerizing a pharmacy, and other current issues. The goal is to provide the knowledge and managerial skills necessary

to succeed in a competitive marketplace. Lecture, three hours.

483. Aging and Health Care. 3 cr.
A course designed to introduce the student to the field of gerontology. Emphasis will be on the aging process and the special health care needs of the elderly from a multidisciplinary perspective, including the behavioral sciences, physiology and pharmacology, and clinical pharmacy. Lecture, three hours.

DEPARTMENT OF CLINICAL PHARMACY

Chairman: Bruce Livengood, Pharm.D.

Faculty: Associate Professors Eder, Freedy, Giudici, Lech, Livengood, Mattei, Poirier, Rihn; Assistant Professors Goetz, Patricia Keys, Schatz; Instructor Karnack

333. Drug Literature Resources. 1 cr.
This course is intended to acquaint the student with various drug information resources and how to appropriately utilize these references in responding to information requests. The course will review the primary and secondary literature, indexing and abstracting systems, the systematic search process, principles of literature evaluation, and the approach for answering common drug information questions. Lecture, one hour; Laboratory, one hour.

440. Therapeutics. 6 cr.
A course designed to provide the student with the information necessary to demonstrate competency related to the therapeutic principles of selected disease states. Prerequisites: Pharmacology-Drug Mechanisms I, II and Medicinal Chemistry-Naturals Products I, II. Lecture, six hours.

441. Practical Pharmacy I—Clinical Clerkship. 3 cr.
An educational process designed to provide the student with clinical experiences necessary to demonstrate competency in the areas of providing patient education, ascertaining drug histories, participating in the selection and monitoring of therapeutic modalities, and other pharmacist-related functions. The fifth-year Pharmacy student will be assigned to a member of the clinical faculty and a given practice site. Note: Calendar change for fifth-year Pharmacy students may be required. Prerequisite: Therapeutics.

491. Hospital Pharmacy Management. 3 cr.
A course designed to introduce the student to hospital pharmacy resource management and to services frequently associated with hospital pharmacy. Lecture, three hours.

501. Hospital Pharmacy Administration. 3 cr.
The students are drawn into active discussions involving the administration of modern hospital pharmacy services. Literature, report assignments,

and case studies complement the lecture and discussion material. Lecture, three hours.

804. Drug Literature Evaluation. 2 cr.
The course will provide an overview of various issues of study design and the use of descriptive and inferential statistics. Lectures include a discussion of the structure of experimental designs, randomization, control groups and the role of statistics in experimental design. Principles will be applied by evaluating selected articles from the primary literature. The student will be expected to evaluate the appropriateness of study design, statistical tests and the extrapolation of results to clinical practice. Lecture, two hours.

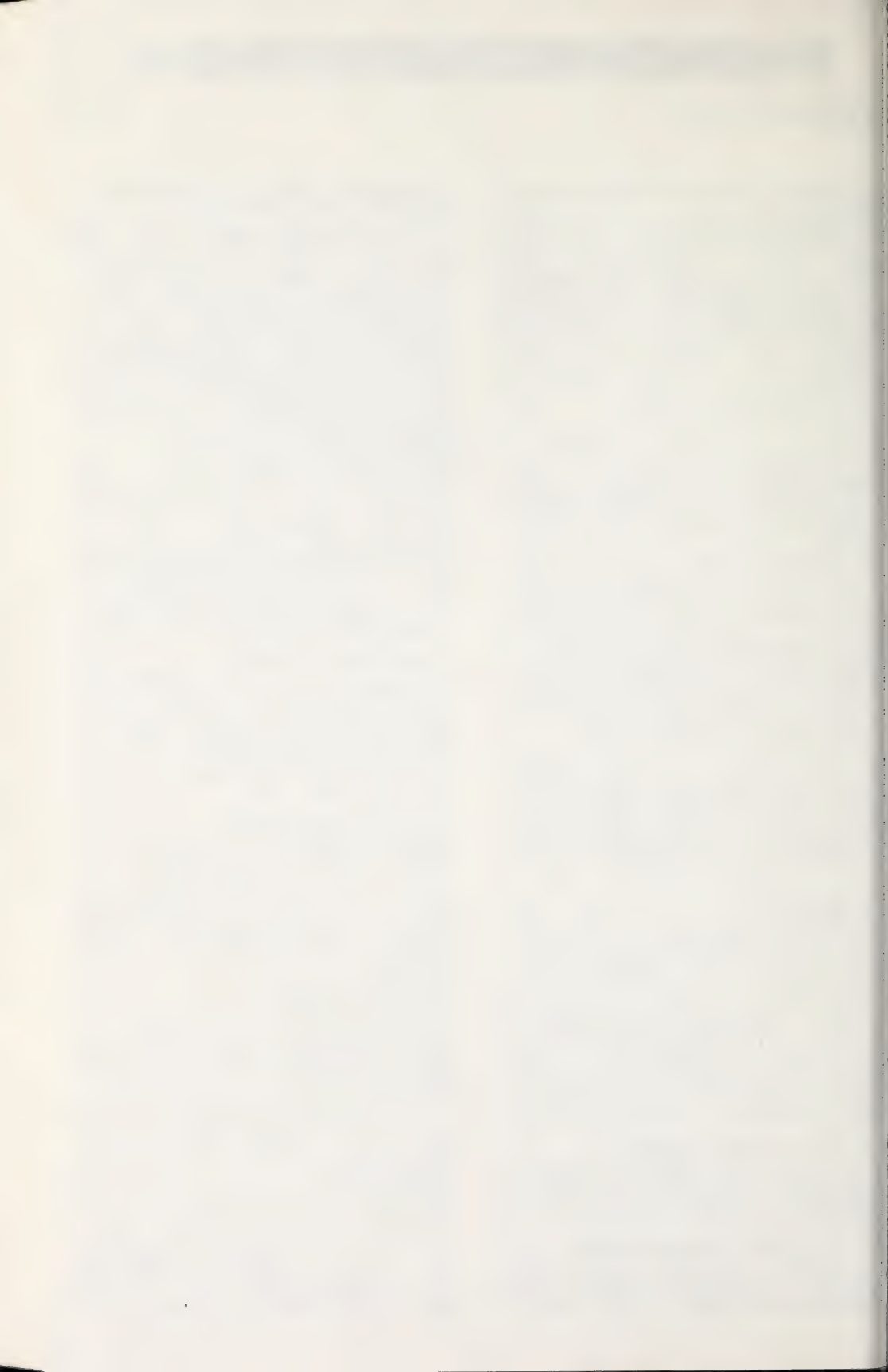
806. Drug Information Resources. 2 cr.
This course is structured to familiarize the student with the various primary and secondary literature sources of pharmacology and medicine. The student is prepared to utilize the indexing, abstracting and select on-line computer systems associated with clinical practice. Each student participates in the activities of the Drug Information Center to allow for practical application of material presented in the classroom. Lecture, two hours.

811. Drug Induced Diseases. 2 cr.
The adverse effects of drug administration on various body systems are reviewed. Emphasis is placed on methods for their proper recognition, monitoring, evaluation and management. Discussion is directed toward the mechanism, incidence and clinical presentation of these consequences of drug therapy. Lecture, two hours.

812. Clinical Pharmacokinetics. 3 cr.
The course is designed to discuss the major parameters affecting the clinical pharmacokinetics of specific drug entities. Lecture material will be applied in the design of patient-specific dosage regimens for actual patient cases. Computerized applications in clinical pharmacokinetics are an integral component of the case studies. Lecture-laboratory, three hours.

814. Parenteral Therapy. 3 cr.
A lecture/laboratory course designed to present the principles of sterilization, aseptic processing and membrane filtration in the preparation of parenteral products and intravenous admixtures in pharmacy practice. Emphasis on the principles of fluid and electrolyte therapy, acid-base balance and total parenteral nutrition is included in lecture. Lecture, three hours; Pre-laboratory and laboratory/demonstration.

815. Clinical Oncology. 2 cr.
The course will provide insight into the pathophysiology, diagnosis, and treatment of cancer. The pharmacist's role in the total management of the cancer patient is emphasized. Principles for clinical monitoring, palliative and symptomatic management, management of complications from





An understanding of the research procedures and protocols necessary to advance the body of knowledge in their respective professions will be fostered. Always there will be an awareness, feeling, and sensitivity to address the human response to disease or trauma necessary to be a total health care practitioner. The ultimate goal of the educational programs within the RSHS at Duquesne University is to educate truly outstanding health care practitioners capable of explaining, investigating, and delivering the highest level of quality care with kindness and dignity.

The mission of the RSHS is to educate students who are excellent clinical practitioners, who can assume positions of leadership, who understand the unique individual qualities of their patients, and who have concern for their general welfare. Moral and ethical values will support the scientific underpinning of the academic programs. Curriculums will provide a comprehensive background for advanced graduate education, research, and scholarship. Graduates will be prepared for successful careers in athletic training, health records administration, occupational therapy, perfusion technology, physical therapy, and physician assistant. Health professionals who graduate from the RSHS will possess the characteristics of leadership, expertise, initiative, responsibility, and a profound moral and ethical respect for their patients and profession.

The RSHS is dedicated to educating students who are excellent practitioners who value the worth of the individual human being and are committed to service in their profession and in the community.

PROGRAMS AND DEGREES AWARDED

The Rangos School of Health Sciences offers five-year entry-level master's degree programs in Physical Therapy (M.P.T.), Occupational Therapy (M.O.T.), Health Records Administration (M.H.R.A.), and Physician Assistant (M.P.A.). The academic model for these programs will be three years of liberal arts and science requirements followed by two years of professional education. This three-two model is unique for these professions and provides the RSHS faculty the opportunity to maximally utilize the excellent core curriculum and science offerings at Duquesne as the basis for creative, professional curriculums. All of the five-year entry-level master's degree programs will award a bachelor of science in Health Sciences at the end of the fourth year and a tagged master's degree at the end of the fifth year.

Additionally, the RSHS offers four-year bachelor of science degree programs in Athletic Training (B.S. in Athletic Training) and Perfusion Technology (B.S. in Perfusion Technology see pages 75-76) and will follow a more traditional curricular design. Majors in athletic training, with additional work done in the School of Education, will also have the opportunity to qualify for teacher certification. This flexible

curricular planning will allow students to maximize their educational opportunities. The academic model for these programs will be two years of liberal arts and science requirements followed by two years of professional education.

ADMISSION REQUIREMENTS

ADMISSION OF HIGH SCHOOL GRADUATES
Students who are interested in applying for admission to the RSHS should request an application from the Office of Admissions, Duquesne University, Pittsburgh, PA 15282. The specific entrance requirements for admission are:

1. A candidate should have been graduated from an approved secondary school in the upper three-fifths of the class, and demonstrated exemplary personal conduct in that institution. Applicants who have not completed four years of high school must submit a High School Equivalent Diploma issued by their state department of education.
2. High School curriculum must include 16 units distributed as follows: four units in English; eight units in any combination from the area of social studies, language, mathematics, and sciences; and four elective units for which the secondary school offers credit toward graduation. In specific instances, and at the discretion of the Committee on Admissions, the genuine equivalent of these requirements may be accepted in lieu of the precise requirements specified. Candidates should have completed a minimum of seven units in mathematics and sciences.
3. Scores in accordance with the standards adhered to by the University must be presented for the required College Entrance Examination Board Scholastic Aptitude Test (SAT) or the American College Testing Program (ACT).
4. All students in the RSHS are required to participate in volunteer experiences prior to entering the professional phase of their respective curriculum. Additional information about these experiences can be obtained from the RSHS Advisor.

FINANCIAL AID

Financial Aid is provided through the University's Financial Aid Office. The Rangos School of Health Sciences will have scholarships available for the professional phases of the curriculum. Upon entering the professional phase of the curriculum these scholarships will be awarded on a competitive basis.

DEPARTMENTS

PHYSICAL THERAPY

Physical therapy is very succinctly defined by Webster as "therapy using exercise, massage, heat, etc. instead of drugs." The operative words here are,

obviously, "instead of drugs." There probably doesn't exist another profession which is so clearly in tune with today's health conscious society.

Beyond this precursory explanation, physical therapists assess and treat patients with a broad scope of physical disabilities. They work to prevent, detect, assess, correct or alleviate prolonged movement dysfunction. Their work includes the administration, interpretation and evaluation of tests; and, through consultation and education of their patients, they reduce or limit the incidence and severity of physical disability and pain.

Physical therapists are employed by hospitals, nursing homes, rehabilitation centers, home care centers, private practices, private clinics, schools, and sports medicine and fitness centers.

Students are admitted to the Physical Therapy program as freshmen and will achieve a Master's of Physical Therapy through a five-year curriculum. Students may transfer into the physical therapy program after the freshman year if space is available.

The demand for physical therapists has been estimated to be an 87 percent increase by the year 2000. These U.S. Bureau of Labor Statistics were compiled by the Institute of Medicine in its 1988 study "Allied Health Services: Avoiding Crisis." This 87 percent increase translates to some 53,500 jobs in the field.

OCCUPATIONAL THERAPY

For occupational therapists, theirs is a labor of love. Job descriptions indicate the need for a strong interest in people and a desire to help others. Occupational therapists assist those who are unable to care for themselves or who are unable to perform at work, at school, or at play.

Occupational therapists instruct their patients in the performance of some purposeful activity which will serve to prevent or alleviate movement dysfunctions. Occupational therapists assess their patients' abilities, prescribe treatment plans, monitor progress, make recommendations to continue or terminate treatment, and make further referrals when improved functional ability is possible.

Occupational therapists work in hospitals, psychiatric institutions, rehabilitation centers, nursing homes, community agencies, schools, private practices, private homes, and industry.

The Occupational Therapy program at Duquesne begins in the freshman year. During the first three years, students are exposed to a wide variety of core arts and sciences and pre-professional courses. Their senior and fifth years are spent in the professional phase of the curriculum which includes clinical training at one of the participating area hospitals or health centers along with extensive didactic work.

The American Occupational Therapy Association foresees a 93 percent increase in the demand for occupational therapists by the year 1995. There will

be 43,500 openings for those with the skills to practice in this challenging field.

HEALTH RECORDS ADMINISTRATION

As one might imagine, the task of record-keeping for a major metropolitan hospital is phenomenal. The knowledge and skill level necessary for a position in medical records is reflected in the skyrocketing salaries commanded by these professionals over the past decade.

Health records administrators plan, design, organize, implement, and maintain health record systems in a variety of settings. They are charged with the development of a nucleus, or central information point, from which all operations and management evolve. Their work assists in the evaluation of patient care, the carrying out of research, and the maintenance of health records which influence reimbursement.

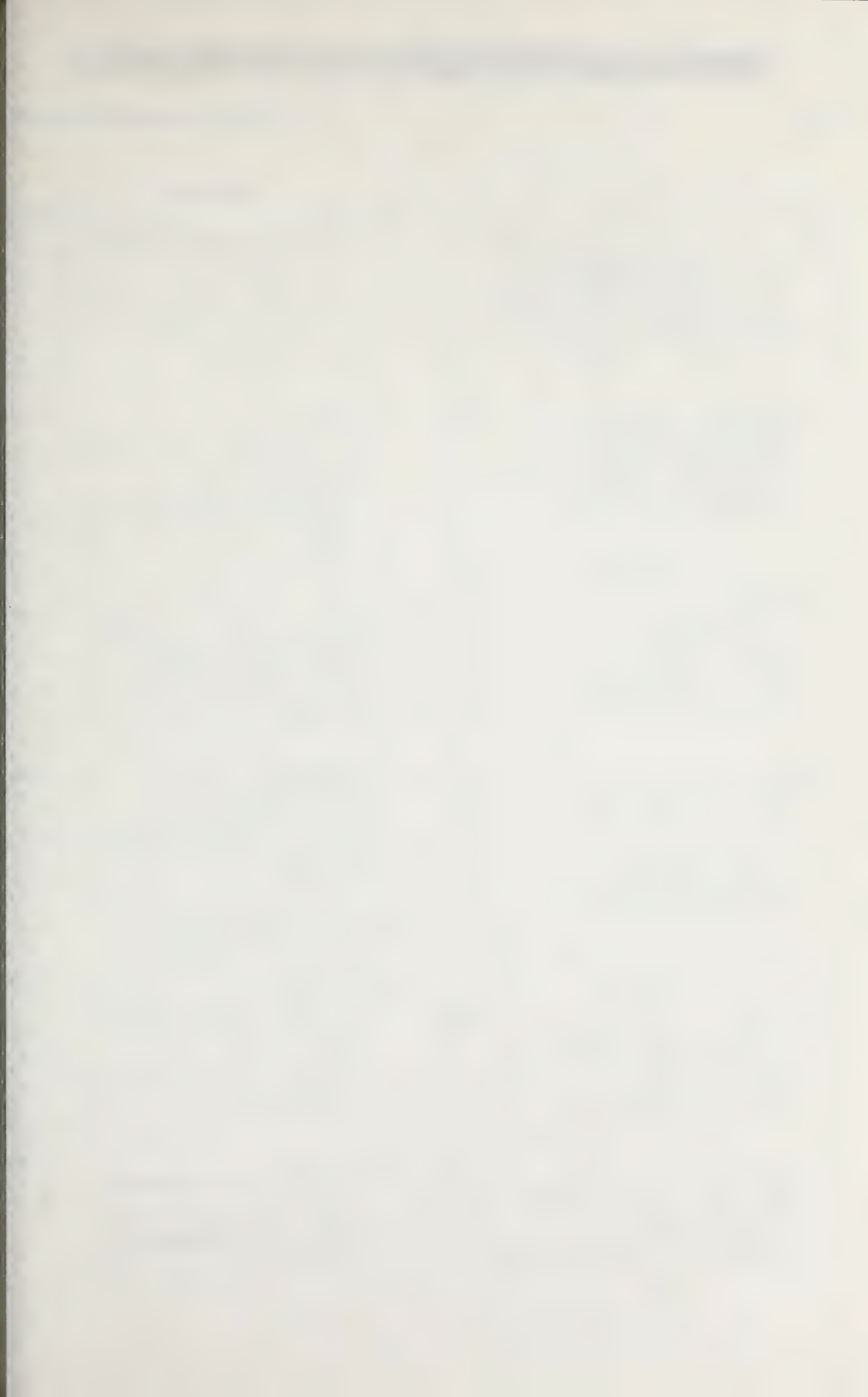
Their work may take them beyond hospitals to psychiatric and mental health facilities, rehabilitation centers, ambulatory care centers, long term care facilities, industry, research and educational institutions, government agencies, and consulting firms.

The curriculum for a Health Records major is structured much like those of the Physical and Occupational Therapy majors. Most instructional course work is completed in the first three years while the senior and fifth years are concentrated on the science of health records administration. The outlook for health records administrators is equally optimistic. Projections presented by the U.S. Bureau of Labor Statistics for data compiled by the Institute of Medicine in its 1988 study "Allied Health Services: Avoiding Crisis" indicates that 75 percent more or 29,900 new jobs will open up in the next decade.

PHYSICIAN ASSISTANT

A physician assistant is a skilled member of the health care team who practices medicine under the supervision and responsibility of a doctor of medicine or osteopathy, fulfilling a broad range of medical services which would otherwise be provided by a physician in accordance with state laws. The physician assistant is qualified by academic and clinical training to perform initial and follow-up evaluations of the patient, to elicit a detailed history, perform an appropriate physical examination, record and present pertinent data including interpretive recommendations in a manner meaningful to the physician. Additional tasks performed by physician assistants include preparing patient summaries, collecting specimens, initiating requests for commonly-performed initial laboratory studies, identifying findings and abnormal findings on history, physical examinations, and lab studies. The physician assistant also participates in the evaluation and management of emergency patients, performs numerous clinical procedures, provides counseling and instruc-





PRE-ATHLETIC TRAINING*

First Year		
<i>Fall Semester</i>		<i>Credits</i>
Health Sciences Orientation	1	
Thinking/Writing Across Curriculum	3	
General Biology I	4	
General Chemistry I	4	
Basic Philosophical Questions	3	
	<u>15</u>	

<i>Spring Semester</i>		<i>Credits</i>
Imaginative Lit./Critical Writing	3	
Etymology of Scientific Terms	3	
Fundamentals of Statistics	3	
Social, Political & Economic Systems**	3	
Introduction to Psychology	3	
	<u>15</u>	

Second Year

<i>Fall Semester</i>		<i>Credits</i>
Public Speaking	3	
General Physics I	4	
Anatomy/Physiology I	3	
Anatomy/Physiology Lab I	1	
Developmental Psychology I	3	
Shaping of the Modern World**	3	
	<u>17</u>	

<i>Spring Semester</i>		<i>Credits</i>
Intro. to Computer Science/Basic	3	
Christian Understanding of the		
Human Person**	3	
The Arts & Human Experience**	3	
Anatomy/Physiology II	3	
Anatomy/Physiology Lab II	1	
Developmental Psychology II	3	
	<u>16</u>	

PRE-PHYSICIAN ASSISTANT*

First Year		
<i>Fall Semester</i>		<i>Credits</i>
Health Sciences Orientation	1	
Thinking/Writing Across Curriculum	3	
General Biology I	4	
General Chemistry I	4	
Basic Philosophical Questions	3	
	<u>15</u>	

<i>Spring Semester</i>		<i>Credits</i>
Imaginative Lit./Critical Writing	3	
General Biology II	4	
General Chemistry II	5	
Social, Political & Economic Systems**	3	
	<u>15</u>	

Second Year

<i>Fall Semester</i>		<i>Credits</i>
Shaping of the Modern World**	3	
Christian Understanding of the		
Human Person**	3	
Anatomy/Physiology I	3	
Anatomy/Physiology Lab I	1	
Introduction to Psychology	3	
Biology of Microbes	3	
	<u>16</u>	

<i>Spring Semester</i>		<i>Credits</i>
The Arts & The Human Experience**	3	
General Physics I	4	
Anatomy/Physiology II	3	
Anatomy/Physiology Lab II	1	
Developmental Psychology I	3	
Elective	3	
	<u>17</u>	

Third Year

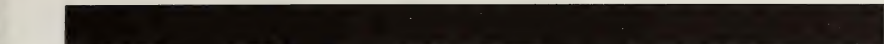
<i>Fall Semester</i>		<i>Credits</i>
Intro. to Computer Science/Basic	3	
Developmental Psychology II	3	
Etymology of Scientific Terms	3	
Behavioral Aspects of Illness	2	
Anatomy	5	
	<u>16</u>	

<i>Spring Semester</i>		<i>Credits</i>
Fundamentals of Statistics	3	
Health Care Ethics	3	
Workshop: Group & Organizational		
Comm.	3	
Physiology	4	
	<u>13</u>	

PRE-PERFUSION TECHNOLOGY*

First Year		
<i>Fall Semester</i>		<i>Credits</i>
Perfusion Technology Orientation	1	
Perfusion Technology Seminar	2	
General Chemistry I	4	
Calculus I	4	
Thinking/Writing Across Curriculum	3	
University Core	3	
	<u>17</u>	

<i>Spring Semester</i>		<i>Credits</i>
Perfusion Technology Seminar	2	
General Biology II	4	
General Chemistry II	5	
Imaginative Lit./Critical Writing	3	
University Core	3	
	<u>17</u>	



Second Year

<i>Fall Semester</i>	<i>Credits</i>	<i>Spring Semester</i>	<i>Credits</i>
Perfusion Technology Seminar	2	Perfusion Technology Seminar	2
Anatomy/Physiology I	3	Anatomy/Physiology II	3
Anatomy/Physiology Lab I	1	Anatomy/Physiology Lab II	1
Organic Chemistry I	4	Organic Chemistry II	4
General Physics I	4	General Physics II	4
University Core	<u>3</u>	University Core	<u>3</u>
	17		17

Reserve Officers' Training Corps

DEPARTMENT OF MILITARY SCIENCE (ARMY OFFICERS' COMMISSION PROGRAM)

PROGRAM

The Army Reserve Officers' Training Corps (ROTC) Program has been a member of the "Duquesne Family" since 1936. It is a completely voluntary program which is open to male and female students at Duquesne. It provides students with the opportunity to earn a commission as officers in the U.S. Army, U.S. Army Reserve or Army National Guard. The program is structured to give the student a variety of practical experiences in leading and managing people and resources while learning about the military profession and the role it plays in our system of government. The program is normally completed in four years, but can be completed in two years with permission from the Professor of Military Science. The normal program is divided into two parts: the Basic Course and the Advanced Course.

THE BASIC COURSE

The Basic Course is usually taken in the freshmen and sophomore years, during which time students take ROTC courses as they would any other college courses. There is no military service obligation. The freshmen and sophomore courses follow an adventure, skill learning and leadership track which is designed to enhance self-confidence, provide new experiences, and place students in realistic leadership situations. Freshmen learn survival techniques, how to handle and fire a rifle, and how to navigate cross-country using a map and a compass. Sophomores learn about leadership, management, military history and the role of the military in the United States. The Basic Course may be compressed into a one-year period if the student meets certain prerequisites.

Basic Course Curriculum:

Freshmen (MS I)

<i>Fall Semester</i>	<i>Spring Semester</i>
MS 101. Survival Techniques 0-1 cr.	MS 102. Individual Skills 0-1 cr.

Sophomores (MS II)

<i>Fall Semester</i>	<i>Spring Semester</i>
MS 201. Leadership and Management 0-1 cr.	MS 202. History of the U.S. Army 0-1 cr.

TWO-YEAR PROGRAM

The two-year program is designed primarily for transfer students and students who did not participate in ROTC as freshmen or sophomores. Any student with at least two academic years remaining (undergraduate and/or graduate) is eligible. Students may qualify for this program and enrollment in the Advanced Course by successfully completing a paid summer camp at Fort Knox KY. This training is completed during the summer following the student's sophomore year.

DIRECT ENTRY INTO THE ADVANCED COURSE

Students may receive placement credit for MS I and II and be granted direct entry into the Advanced Course. This placement credit may be granted for:

1. Completion of Army Basic Training or its equivalent in the Navy, Air Force, Coast Guard or Marine Corps.
2. Attendance at a service academy for one or more years.
3. Completion of equivalent level training in Navy or Air Force ROTC.
4. Completion of three or more years training in Junior ROTC (any service) or NDCC.

THE ADVANCED COURSE

After completing the Basic Course, students who have demonstrated officer potential and meet Army physical and medical standards are eligible to enroll in the Advanced Course. The Advanced Course is normally taken in the final two years of college. Therefore, at the beginning of the junior year, the student must decide whether he/she wishes to become an officer and enter the advanced phase of the program. Students who enter the Advanced Course receive a tax-free subsistence allowance of \$100 per month during the school year. The junior year is training-oriented and prepares students for six weeks of rigorous field and leadership training that they receive at Fort Bragg, NC at the end of the academic year. The senior year further prepares the student to perform the duties of an officer. It covers such subjects as military law, administration, logistics, staff functions, professionalism, ethics, and military training. Leadership development is continuously emphasized.

Advanced Course Curriculum:

Juniors (MS III)

<i>Fall Semester</i>	<i>Spring Semester</i>
MS 301. Military Skills Development 0-2 cr.	MS 302. Military Skills Development 0-2 cr.

Summer Between Junior and Senior Year

Attend a six-week ROTC Advanced Camp. Nurses attend special medical training for which they receive academic credits from the School of Nursing.

Seniors (MS IV)

Fall Semester

MS 401. Professional Seminar
0-2 cr.

Spring Semester

MS 401. Professional Seminar
0-2 cr.

SIMULTANEOUS MEMBERSHIP PROGRAM (SMP)

This program permits students to participate in the Army ROTC Advanced Course and serve in a Reserve or National Guard unit as an office trainee at the same time. The advantage to SMP is that the student will receive regular drill pay from the Reserve or National Guard as well as the \$100 per month living allowance for participating in the Army ROTC.

ARMY ROTC SCHOLARSHIPS

Army ROTC offers four-, three-, and two-year scholarships which are awarded on a competitive basis. ROTC students, as well as those students not currently participating in ROTC, are eligible to apply. Each scholarship pays for most of tuition, textbooks, laboratory fees and other purely academic expenses. Scholarship students also receive a tax-free subsistence allowance of \$100 each month during the school year while on scholarship status. For details, see the ROTC Scholarship listing in the Financial Aid Section of this catalog on page 18.

MILITARY SCIENCE CURRICULUM

THE BASIC COURSE

(Military Science Levels I and II).

Military Science (MS) 101. Survival Techniques.

This is an introductory course designed to prepare students to handle survival situations, determine directions, navigate at night, rappel, find and prepare food, find water, apply first aid, cross obstacles and construct shelters.

Military Science (MS) 102. Individual Skills.

This course will provide an introduction to the sport of orienteering, which is a combination of cross-country running and land navigation with the aid of a topographical map and a compass. Instruction is presented on map reading, the use of the compass, and how to move quickly and safely through all kinds of terrain. This course will also instruct students on the proper procedures for handling and firing the M16A1 rifle.

Military Science (MS) 201. Leadership and Management Techniques.

This is an introductory course into basic management and leadership techniques and includes effective communications techniques, small group processes, leadership traits and styles, decision-making and problem-solving techniques. The course is also designed to provide the student with the tools for a self-analysis of his/her management capability and methods for improvement.

Military Science (MS) 202. History of the U.S. Army.

This course introduces the student to the United States Army and provides an inside view of ROTC and the Army, to include its organization, missions, history, and functions. The course will discuss officer career fields, duties and responsibilities of junior leaders, additional education programs, pay, promotion, assignments, customs and traditions of the Army, and the significance of military courtesy and discipline.

THE ADVANCED COURSE

(Military Science Levels III and IV)

Military Science (MS) 301 and 302. Military Skills Development.

These courses require a full school year to complete. In addition to the two hours per week of instruction and practical application exercises on campus, the student periodically attends training exercises on weekends throughout the school year. The courses provide the student with instruction and practical experience in tactical and technical military subjects with particular emphasis on leadership development. The primary purpose of the course is to prepare the student for attendance at the six-week ROTC Advanced Camp at Fort Bragg, NC, normally during the summer following the completion of the junior year.

Military Science (MS) 401 and 402. Professional Seminar.

To take these courses, the student must have satisfactorily completed MS 301 and 302. The courses meet two hours per week and are a systematic and comprehensive study of professional subject matters designed to facilitate the transition from student/cadet to officer. They are comprised of two modules. Module I (MS 401), Administrative/Staff Operations and Procedures, is taught in the fall semester, Module II (MS 402), Military Law, Justice, and Ethics, is taught during the spring semester.

LEADERSHIP LABORATORY

Military Science (MS) 500. Cadet Corps Laboratory. This class is scheduled both semesters, meeting once

a week for two hours. The Cadet Commander uses the lab to disseminate information and to organize the activities of the Corps of Cadets.

OFF-CAMPUS TRAINING AND SOCIAL ACTIVITIES

In an urban environment, it is often not possible to provide students with the kind of surroundings suitable for the conduct of such activities as rappelling and small unit tactics. Therefore, off-campus

sites are utilized on weekends in order to effectively apply techniques taught in the classroom.

Weekend activities are student run and instructor supervised. For this reason, these activities are ideally suited for cadets to practice leadership and organizational and military technical skills.

Some weekday or weekend evenings are set aside for social activities which incorporate exposure to military customs and traditions. These events include the Military Ball and Awards Ceremonies.

Continuing Education

Administration:
Division Director:
Benjamin Hodes, Ph.D.
Center of Continuing Education Director:
Roberta Aronson, M.A., M.A., M.B.A.
Office of Evening and Summer Programs Director:
Darlene Zellers, M.A.

CREDIT PROGRAMS

The Center for Continuing Education (434-5034) gives adult students access to undergraduate courses offered in the many schools and colleges within Duquesne University. Entry requirements are that the individual be twenty-one (21) years of age or older and have a high school diploma or GED equivalency.

Continuing Education students may pursue coursework for a variety of reasons:

- to earn a Bachelor of Professional Studies degree (B.P.S.)
- to pursue coursework as preparation for application to an undergraduate or graduate program.
- to earn a Professional Certificate
- to take courses for self-enrichment

The Bachelor of Professional Studies Degree

The Bachelor of Professional Studies is designed for adult students who seek flexibility in a bachelor's degree program. Students are provided the opportunity to customize plans of study to meet personal and professional goals. A strong foundation in both business and the liberal arts allows students to individually design two major areas of study, designated as Personal Focus Areas. Focus areas are designed in conjunction with an academic advisor and are available in a wide range of business and/or liberal arts subjects.

A minimum of 120 total credits is required to complete degree requirements.

University Core Curriculum — 30 Total Credits

The University Core provides undergraduates with a common intellectual experience as the foundation for their college careers. Core courses focus on issues and values central to the tradition and mission of the University. These courses are not merely preparation for professional study but for lifelong learning.

General Core 24 Credits
101 Thinking and Writing Across the Curriculum 3 Cr.

102	Imaginative Literature and Critical Writing	3 Cr.
109	College Algebra	3 Cr.
111	Calculus or	
115	Calculus I	3 Cr.
131	Bases of Human Thought and Action	3 Cr.
141	Social, Political and Economic Systems	3 Cr.
151	Shaping of the Modern World	3 Cr.
161	The Arts and the Human Experience	3 Cr.

<i>Science Core</i>		3 Credits
171	Biology	(Students choose one Science)
172	Chemistry	
173	Physics	
<i>(Higher level courses also satisfy requirement)</i>		3 Cr.

<i>Theology Core</i>		3 Credits
182	Human Morality	(Students choose one Theology)
183	The Judeo-Christian Religious Tradition	
184	Introduction to the Bible	
185	Religions: East and West	
186	Roman Catholic Heritage	3 Cr.

Some University Core requirements may be fulfilled by alternative courses. Students are advised to consult with their academic advisor to identify alternative courses where appropriate.

Business Requirements — 42 Total Credits

Business requirements professionally prepare students to meet the challenge of a business career through an appreciation of initiative and responsibility; by developing the ability to work harmoniously with others and to adjust to changing circumstances; by encouraging logical thinking and analytical reasoning; and by developing an awareness of the important role of quantitative measurements in today's business world.

Students must complete 60 credits, including all required freshman and sophomore business courses, prior to enrolling for 300 or 400 level business courses.

181	Introduction to Computers	3 Cr.
182	Micro Computer Software Applications	3 Cr.
211/212	Principles of Accounting I & II	6 Cr.
221/222	Principles of Economics I & II	6 Cr.
251	Legal Process	3 Cr.
281/282	Probability & Statistics I & II	6 Cr.
331	Business Finance	3 Cr.
361	Principles of Management	3 Cr.
371	Principles of Marketing	3 Cr.
381	Intro to Decision Sciences	3 Cr.
491	Executive Action Simulation or	
492	Executive Policy	3 Cr.

Personal Focus Areas — 30-42 Total Credits

In consultation with an academic advisor, students customize two focus areas consisting of integrated course work from the School of Business and/or the College of Arts & Sciences. A wide range of business and liberal arts disciplines are available from which these Personal Focus Areas can be designed. A minimum of 15 credits is required to complete a focus area, two-thirds of which is above the 200 course level. Duquesne University's Professional Certificate Programs provide examples of integrated, professional oriented course work that may be modeled as Personal Focus areas. A maximum of 36 credits from the School of Business may be applied to focus areas or electives.

Electives — 6-18 Total Credits

Electives provide the opportunity for students to select courses based upon their areas of interests. Communication courses are highly recommended. Consultation with an academic advisor is recommended to fully benefit from the wide variety of electives available.

Professional Certificate Programs

The Professional Certificate is a free-standing professional credential. Each program of study includes between five and nine (5-9) credit courses that comprise a focused area of professional knowledge. Candidates for the professional certificates usually have an Associate's or Bachelor's degree and typically enroll in a certificate program in order to enter a new profession or to advance in their current careers.

Some of these certificate programs have prerequisites. Please call 434-6232 for a complete catalogue with all prerequisites and course work specifics.

Professional certificates are available in the following areas:

Accounting (Basic):

This certificate is a five-course, 15 credit program of the following courses:

- 211 Intro to Accounting I
- 212 Intro to Accounting II
- 311 Intermediate Accounting I
- 312 Intermediate Accounting II

Select one (1) of the following:

- 315 Cost Accounting
- 411 Auditing

Accounting (Advanced):

This certificate is an eight-course, 24 credit program which satisfies the course work requirements for the Pennsylvania CPA examination. The candidate must also have a Bachelor's degree to sit for the CPA exam.

The required curriculum includes 15 credits from the Basic Certificate program, plus nine (9) credits from the following:

- 251 Legal Process
- 412 Intro Income Tax Accounting

Select one (1) of the following:

- 353 Contracts
- 354 Commercial Transactions
- 355 Law and Business Organizations
- 356 Legal Aspects of Human Resource Management
- 454 The Law of International Commercial Transactions

Financial Analysis (Basic):

This certificate is a five-course, 15 credit program of the following courses:

- 331 Business Finance
- 332 Money & Financial Institutions
- 333 Financial Management
- 335 Business Financial Problems
- 432 Credit Management

Financial Analysis (Advanced in Securities Analysis):

This certificate is an eight-course, 24 credit program including the five courses from the Basic Certificate plus the following three courses:

- 336 Security Analysis
- 337 Investment Analysis
- 433 Financial Markets

Computer Science:

This certificate is a nine-course, 25-27 credit program of the following courses:

- 105 Computer Programming I
- 106 Computer Programming II
- 200 Computer Organization and Assembly Language
- 300 Data Structures
- 325 Operating Systems and Computer Architecture I

Select four (4) of the following:

- 308 Numerical Analysis
- 401 Data Base Management Systems
- 410 Artificial Intelligence
- 445 Systems Analysis and Software Design
- 480 Senior Project

Management Information Systems (MIS):

This certificate is an eight-course, 24 credit program of the following courses:

- 181 Introduction to Computers
- 182 Microcomputer Software Applications
- 382 Information Processing with COBOL
- 383 File Processing with COBOL
- 385 Computer Systems
- 481 Systems Analysis and Design
- 482 Data Base Management
- 483 MIS in Organizations

Marketing:

This certificate is a six-course, 18 credit program of the following courses:

- 371 Principles of Marketing
- 373 Sales Administration
- 375 Physical Distribution Management
- 476 Product Management

Select one (1) of the following:

- 478 Industrial Marketing
- 475 Consumer Behavior
- 477 Strategic Marketing Planning

Corporate Communication (Basic):

This certificate is a five-course, 15 credit program of the following courses:

- 460-306 Business and Professional Communication
- 460-333 Advertising and PR Campaigns
- 460-456 Theory & Practice of Organizational Communication
- 460-475 Communication Research Methods

Select one (1) of the following:

- 480-383 Writing for Business and Industry
- 480-385 Professional and Technical Writing
- 460-430 Public Relations Practice
- 460-435 Advertising Practices

Corporate Communication (Advanced):

This certificate is a seven-course, 21 credit program including five courses from the Basic Certificate plus two of the following courses:

- 304 Persuasion
- 281 Visual Communication
- 432 Print Production and Graphic Design
- Human Resource Management

Professional Communication Skills:

This certificate is a five-course, 15 credit program of the following courses:

Choose one (1) of these two (2) courses:

- 460-207 Journalistic Writing
- 460-271 Basic Reporting and Writing I

Take the following three (3) courses:

- 460-306 Business & Professional Communication
- 480-383 Writing for Business & Industry
- 480-385 Professional and Technical Writing

Choose one (1) of the following:

- 460-304 Persuasion
- 460-432 Print Production and Graphic Design

Real Estate (Basic):

This certificate is a five-course, 15 credit program consisting of the following courses:

- 339 Foundations of Real Estate
- 357 Real Estate Law
- 431 Real Estate Finance and Mortgage Banking

- 434 Real Estate Investment Analysis
- 436 Residential Real Estate Valuation

Real Estate (Advanced):

This certificate is an eight-course, 24 credit program including the five (5) courses from the Basic Certificate plus three (3) of the following courses:

- 328 Urban Land Economics
- 438 Commercial/Industrial Valuation
- 439 Contemporary Topics Seminar
- 435 Property Management

NON-CREDIT PROGRAMS**The Paralegal Institute**

As the need for legal services has increased over the past decade, the demand for paralegals has risen dramatically. Government studies show that the paralegal profession is the fastest growing profession in America today.

"Paralegals" are employees of lawyers who do research, drafting, organization of complex litigation and a variety of other work including that formerly done by lawyers. They work for private law firms, for legal services projects, for banks and corporations, and for the government.

Under the supervision of a lawyer, the legal assistant shall apply knowledge of the law and legal procedures in rendering direct assistance to lawyers, clients and courts; design; develop and modify procedures; techniques; services and processes; prepare and interpret legal documents; detail procedures for practicing in certain fields of law; research, select, assess, compile and use information from the law library and other references; and analyze and handle procedural problems that involve independent decisions.

In response to the demand for highly trained well qualified paralegals, the Center for Continuing Education at Duquesne University established the Paralegal Institute.

The Institute offers a program of studies designed to accommodate students who wish to develop the specialized skills necessary to enter the paralegal profession. A certificate in Paralegal Studies is awarded at the successful completion of eight courses. Four core courses: Introduction to the Legal System and Paralegalism, Legal Research, Legal Writing and Computer Literacy are required of all students. Four additional specialized courses are required of all candidates for completion of the certificate. Students enrolled in the program would have access to the Duquesne University Law Library as a part of their preparation in Legal Research.*

Entry Requirements

Admission to Duquesne University's Paralegal Institute is restricted to qualified candidates. Students

may be considered for admission to the program if they possess a Bachelor degree**.

*This program has been approved by the American Bar Association.

**In certain cases the Admissions Committee may waive this requirement and consider other related factors such as previous experience.

Call 434-1643 for complete information, including a catalogue and an application.

Academic Standards

Students must maintain a 2.5 grade point average for successful completion of the program and certificate. Students with academic deficiencies may be required to complete additional course work. The Director of the Paralegal Institute and the Academic Review Committee will evaluate deficiencies on a case-by-case basis and recommend the appropriate course of action.

Duquesne Benefits Institute

The Duquesne Benefits Institute is an educational institution associated with the Center for Continuing Education of Duquesne University and devoted to continuing professional education for those who work in the field of employee benefits.

Once principally the domain of tax lawyers, the employee benefit field exploded with the passage of the Federal Employee Retirement Income Security Act of 1974 (ERISA). This field has become one of the most challenging areas of professional practice, encompassing professionals from the areas of law, human resources, management, consulting, actuarial science, insurance and investment management, banking, accounting and many other disciplines.

This is an intensive training program in all phases of employee benefit plans, from qualified pension and profit sharing plans to group insurance plans, IRA's, VEBA's and fringe benefits.

The Curriculum consists of five (5) courses and leads to the awarding of the Certificate in Benefit Plans, entitling the holder to use the designation "CBP" after his or her name.

For those entering the field, the Program is designed to provide a solid foundation of practical skills which will enable the certificate holder to discharge major responsibility in the design, installation and operation of employee benefit plans.

For those already in the field, the Program is designed to provide a combination refresher/update on all of the latest developments in this fast-moving area, as well as broaden the professional's base within the field.

Entry Requirements

A college degree is normally required for admission to the Benefit Plan Certificate Program. In certain cases, the Admission Committee may waive this requirement and consider other related factors such as previous experience.

Call 434-1643 for complete information, including a catalogue and an application.

Academic Standards

Students must maintain a 2.5 grade point average for successful completion of the program and certificate.

The Nurse Management Institute

The Nurse Management Institute is co-sponsored by Duquesne University's School of Nursing and the Center for Continuing Education. The Institute's program is a nine-session series that trains nursing managers to manage more effectively. The program emphasizes practical skills and methods that managers will be able to put to immediate use to improve their ability to manage and to increase their professional opportunities.

The Nurse Management Institute program runs annually beginning in October through April as an integrated series of one-day sessions.

Call 434-1642 for additional information.

Exam Preparation Courses

Three review courses are offered for individuals interested in preparing to sit for examinations required for graduate school admittance.

Each preparation course will enable you to take the selected exam with confidence and skill. Learn how to approach and analyze complex questions and discover the most effective ways to use your test time — identify and strengthen your weak areas!

Instructors are members of the Duquesne University faculty.

LSAT

Performance on the LSAT can count for as much as 50% of your chances to be admitted to the school of your choice.

<i>Review</i>	<i>Exam Date</i>
September 8, 1990	October 6, 1990
September 15, 1990	
September 22, 1990	
September 29, 1990	
October 27, 1990	December 1, 1990
November 3, 1990	
November 10, 1990	
November 17, 1990	
January 12, 1991	February 9, 1991
January 19, 1991	
January 27, 1991	
February 2, 1991	

June dates to be announced.

GRE

The Graduate Record Exam — four days of intensive review include math, logic and verbal sections of the exam. Each section analyzed in detail.

<i>Review</i>	<i>Exam Date</i>
November 3, 1990	December 8, 1990
November 10, 1990	
November 17, 1990	
December 1, 1990	
January 5, 1991	February 2, 1991
January 12, 1991	
January 19, 1991	
January 26, 1991	

GMAT

For applicants to graduate business school. Register early and receive advance GMAT study and preparation materials. Note: mailed only if registration is received two weeks before review program begins.

<i>Review</i>	<i>Exam Date</i>
September 22, 1990	October 20, 1990
September 29, 1990	
October 6, 1990	
October 13, 1990	
January 5, 1991	January 26, 1991
*January 6, 1991	
January 12, 1991	
*January 13, 1991	
February 16, 1991	March 16, 1991
February 23, 1991	
March 2, 1991	
March 9, 1991	
May 11, 1991	June 15, 1991
May 18, 1991	
June 1, 1991	
June 8, 1991	

*Class held on Sunday.

University reserves the right to cancel class based on enrollment.

Part VIII:
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 Carole A. Tarhi. *Assistant to the Dean*

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- Thomas Riley
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Pittsburgh, PA
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Richland Drug Store, Inc.
Johnstown, PA

- James E. Rovegno
Lawrence Park Apothecary
Erie, PA
- James Rulyak
Union Prescription Center
McKeesport, PA
- John Russo, Jr.
Russo's Pharmacy, Inc.
New Castle, PA
- John O. Sansone
Woodville State Hospital
Pittsburgh, PA
- David Sas
Medicine Shoppe
Forest Hills Plaza
Forest Hills, PA
- Anthony Savelli
Director of Pharmacy
Ohio Valley Hospital
McKees Rocks, PA
- Frank Scalise
Beverly Pharmacy
Pittsburgh, PA
- Shelly Scanga
Remedies Pharmacy
Pittsburgh, PA
- Mary Beth Scerbo
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Clymer, PA
- Merritt M. Schultz
Director of Pharmacy
Lee Hospital
Johnstown, PA
- Edward Schuster
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Monongahela, PA
- Daniel Seiss
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Whitaker, PA
- Gregory K. Shaeffer
Director of Pharmacy
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Hershey, PA
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Giant Eagle #57
Washington, PA
- Harold Singleton
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Warren, PA
- Phillip B. Sollon
Sollon Pharmacy
Canonsburg, PA
- Gary Spence
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Pittsburgh, PA
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Cumberland Area Health Education Center
Cumberland, MD
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- Frank J. Stroker, Jr.
Director of Pharmacy
Warren General Hospital Pharmacy
Warren, PA
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Aliquippa, PA
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- Charles D. Thomas
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Pittsburgh, PA
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Jeannette, PA
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- Daniel Wagner
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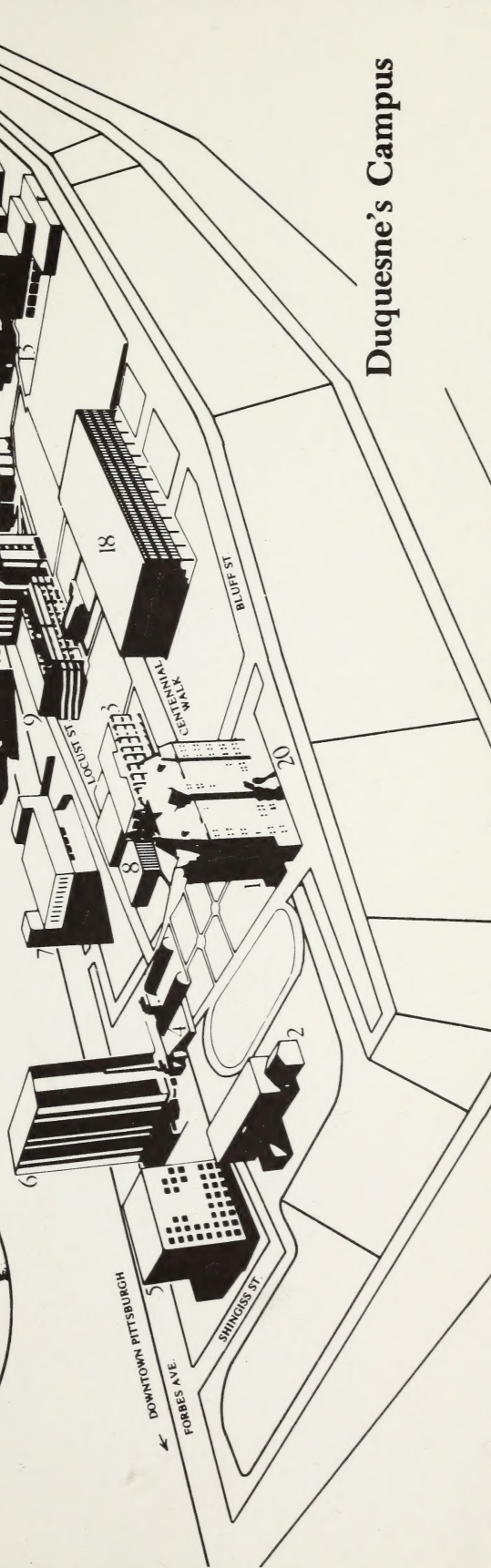
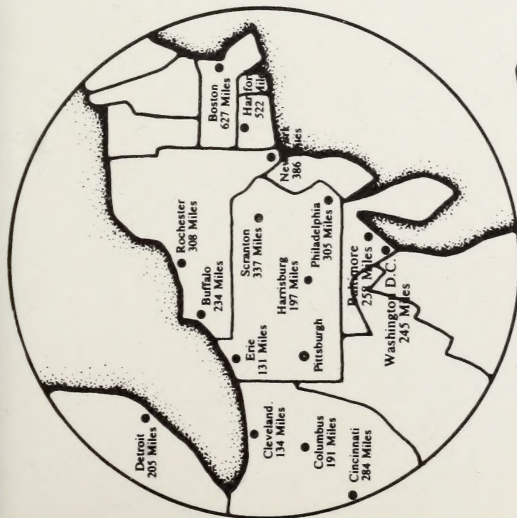
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Duquesne University is easily accessible by plane, bus, rail or car. The campus is a 10-minute walk from downtown, where both Greyhound and Trailways bus and Amtrak train stations are located. If you are arriving by plane, the Greater Pittsburgh International Airport is located only 20 minutes from downtown Pittsburgh via bus, cab, rental car or limousine. For those arriving by car, major interstate and state routes lead to Duquesne from all points north, south, east and west. Interstate 79 runs north and south of the campus where it intersects with 279, the Parkway West. From the east, the Pennsylvania Turnpike and state routes 22 or 30 intersect with 376, the Parkway East. Both the Parkway East and West lead to downtown Pittsburgh.

1. Administration Building
2. Trinity Hall
3. Canevin Hall
4. Health Sciences Building
5. Rockwell Hall
6. Cricklewold Hill Apartments
7. The Library Resource Center
8. The Edward J. Hanley Hall School of Law
9. The Duquesne Union
10. College Hall
11. The Music School
12. Des Places Communications Center
13. St. Ann's Hall
14. Assumption Hall
15. St. Martin's Hall
16. The Towers
17. McCloskey Field
18. The Richard King Mellon Hall of Science
19. Palumbo Center
20. Guest Parking Area
21. Parking Garage



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